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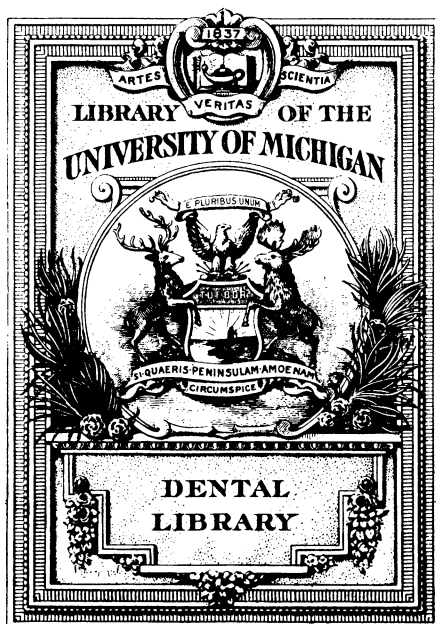
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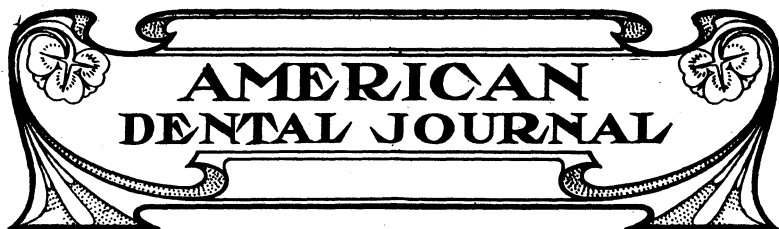
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Progressive Course of Practical Instruction

ORTHODONTIA.

BY J. N. McDOWELL, D. D. S., PROFESSOR OF ORTHODONTIA, COLLEGE OF DENTISTRY, UNIVERSITY OF ILLINOIS.

CHAPTER VII.

PERMANENT TEETH—*Eruption and Occlusion—Eruption of Centrals, Laterals, Bicuspid, Cuspids, Molars—Table of Eruption—Occlusion.*

There is a marked difference between the permanent and temporary teeth in form, size and number. All of the permanent teeth are larger than the temporary. There is a variation in the form of the molars and the temporary molars are succeeded by the bicuspid of the permanent set.

About the age of six years the lower central incisors and lower first molars make their appearance. (A and B, Fig. 1). The eruption of the central incisors varies in time from five and a half years to seven or eight years. The time of the eruption of the first molar seldom varies, usually making its appearance about the age of six years. Only in rare cases is the eruption delayed until the seventh year. The first molar and central incisors often erupt about the same time, but still the centrals may not make their appearance for several years after the eruption of the first molars.

There are several reasons for the early eruption of the first molar. There are no temporary teeth to interfere with the eruption. On account of the rapid growth of the maxillary bones at this age, they make their appearance to aid in maintaining the harmony of the jaws as an addition to the masticating armature, and as a result of an increased demand for nourishment for the body.

The lateral incisors make their appearance at about the age of six and a half years, but the time of eruption of the laterals is variable and they are liable to erupt any time between the age of six and ten years. In fact, with the exception of the third molar, the laterals vary more in the time of eruption than any other teeth of the permanent set, more so in the upper arch than the lower. They not only vary in regard to the time of eruption, but are frequently missing,

and they are also more frequently malformed than any of the other teeth, with the exception of the third molar.

The next teeth to erupt are the first bicuspid. They usually make their appearance about the age of 10 years, but the time of eruption may vary from nine to eleven years. In going from the lateral to the first bicuspid we have the first break in the eruption from before backward in the permanent set. In the temporary set the cuspids closely follow the laterals and first molar while in the

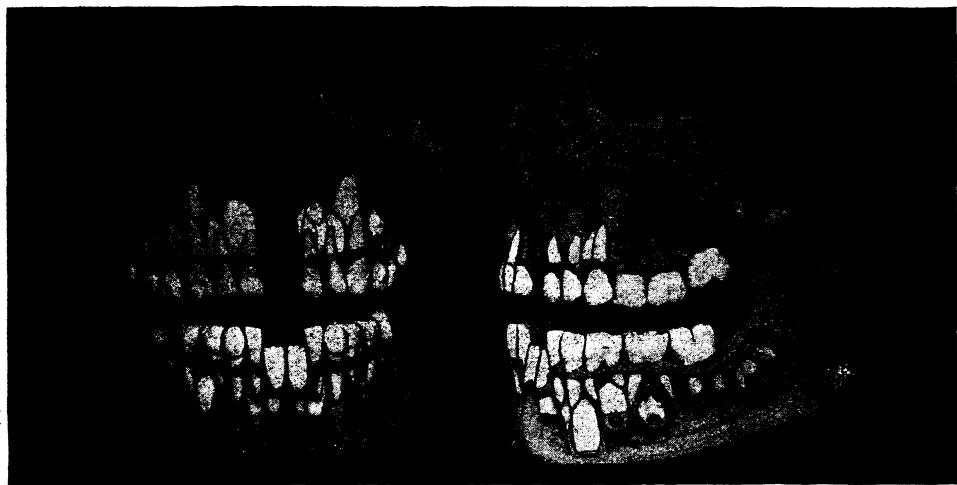


Fig. 1

permanent the first and second bicuspid follow the laterals, before the cuspids begin to make their appearance, as a rule. This break in the continuous backward eruption of the permanent teeth, as stated elsewhere, is a most prolific cause of irregularity.

The second bicuspid usually make their appearance about the age of ten and a half years, but may vary between the ages of nine and a half and eleven and a half. The bicuspid can always be depended on to make their appearance. If, however, they fail, it is usually the result of retention of the temporary molars.

The cuspids follow the bicuspid. The lower cuspids usually precede the upper by a year at least, making their appearance about the age of eleven or eleven and a half. In some cases they make their appearance as early as ten and a half years. The upper cuspids make their appearance about the age of twelve and a half years,

but they may vary in the time of eruption from one to three years. From data collected on the eruption of the cuspids I have found that if the cuspids have not made their appearance by the age of fifteen, they usually make their appearance at certain periods afterward, and these periods are from eighteen to twenty years, from twenty-four to twenty-six and at about thirty. On account of the time and position, that is having teeth erupted both mesially and distally before it makes its appearance, the cuspid is frequently malpositioned.

From the cuspid we pass over to the second molar, which usually makes its appearance about the same time as the upper cuspid, erupting about the age of 13. The second molars can also be depended upon to erupt, and they seldom vary in time, erupting between the ages of twelve and fourteen years.

The third molars are inconsistent. They are usually malformed and malpositioned. On account of their position in the arches and time of eruption they have no material influence upon the occlusion

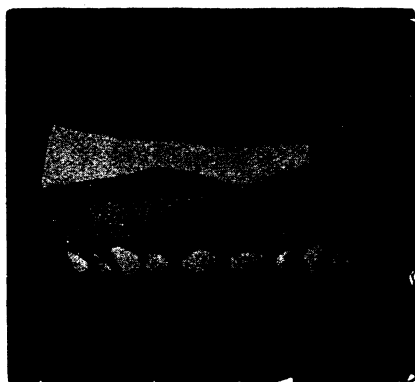


Fig. 11

of the teeth or facial appearance. The usual time of eruption is about the age of eighteen years, but vary in time of eruption from fifteen to sixty years, or they may never erupt.

Eruption of the Permanent Teeth.		General Variation.
	Usual Time.	In Time.
	Years.	Years.
Incisors	6	5½ to 8
Laterals	6½	6 to 10
Cuspids	12½	10½ to 16.

First Bicuspid	10	9 to 11
Second Bicuspid	10½	9½ to 12
First Molar	6	5½ to 6½
Second Molar	12½	12 to 14
Third Molar	18	16 to 60

From three to six months prior to the eruption of the permanent incisors the temporary incisors should begin to show signs of separation at the approximal point of contact (Fig. 2). This is one of the most favorable signs, for it means that the arch is growing and developing proportionately to accommodate the large, permanent incisors that are to succeed the small temporary incisors. And it may be depended upon when this separation occurs, that there will be no malposition of the permanent incisors for want of room, unless caused by habits or pathological conditions. The space between the temporary incisors, as the result of the growth of the jaw, should



Fig. III

be from one to two millimeters in width. That is, there should be at least one millimeter between the temporary centrals, one millimeter between centrals and laterals, and one millimeter between laterals and cuspids. When the temporary incisors have not separated, the permanent teeth are always more or less rotated and overlapped as a result of the crowded condition while erupting.

Temporary Teeth—Anomalies—Habits.

As stated in another chapter, nature seems to favor the temporary teeth as a rule by ignoring them and concentrating all of the anomalies upon the second teeth. There are, however, a few exceptions

to the rule, which, fortunately for infants and dentists, are very rare. These exceptions of anomalies are seldom serious or complicated in their relations to the temporary set and liable results upon the permanent teeth, consisting usually of an extra central or lateral incisor; or sometimes a malformed lateral or central incisor (Fig. 3). An extra lateral or incisor in the temporary set sometimes, instead of being an obstruction, may be a material aid in the future, as in cases where the development of the alveolar process is retarded by a neurotic condition and by its presence sustains the space for the eruption of the larger permanent teeth. As long as such anomalies exist with the temporary set alone and do not reappear in the permanent set, with the proper treatment at the right time—that is, when the permanent teeth are succeeding the tempo-

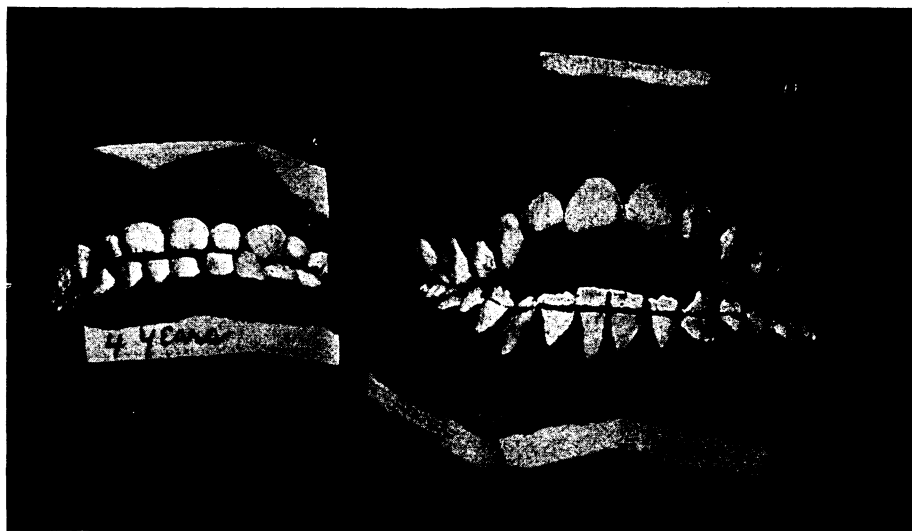


Fig. IV

rary set—the effect will probably never be shown on the permanent set. Malformed or extra temporary teeth should be left alone until ready to be succeeded by the permanent set unless the abnormality is liable to cause an unsightly appearance or an inharmonious relation of the arches. Then it would be best to remove the cause.

A common form of malocclusion of the permanent teeth is the protusion of the upper anterior teeth and retrusion of the lower an-

terior teeth, the result of habits, such as sucking the finger and thumb, a habit usually started early in life. Such habits, if allowed to continue, become a serious menace to the symmetrical curve of the arch. By a continual pressure of the finger or thumb in infancy, the bones being soft and yielding, the anterior portion of the alveolar process is pressed forward or laterally, or the anterior teeth moved apart, according to the direction of the pressure. With the drawing pressure caused by the sucking action the teeth are separated or moved forward in the upper and backward in the lower by the thumb, the buccal muscles exert a lateral pressure upon the arches that, together with the pressure of the thumb upon the anterior part of the alveolar process, slowly changes the upper arch into a narrow curve with the upper anterior teeth tipped outward and upward; while the lower anterior teeth are tipped backward by the pressure (Fig. 4).

This habit, if allowed to continue from infancy, lays the foundation for the development of the arches into an inharmonious relationship, thus forcing malocclusion of the permanent teeth into the most complicated forms, interfering with the normal development of the bones of the face, the upper lip and nose, and permanently marring the facial appearance. It is of vital importance that such conditions should be sought for among children, so that early interference may be accomplished, and thus an everlasting blessing be rendered to both children and parents.

(To be Continued)



PROGRESSIVE COURSE OF PRACTICAL INSTRUCTION

OPERATIVE DENTISTRY

By R. B. Tuller, D. D. S.,

Clinical Professor of Operative Dentistry, Chicago College of Dental Surgery.

CHAPTER XXVIII.

ABOUT CEMENTS.

Something has already been said in regard to cements in these articles, but incidentally rather than being the pith of the subject, and further discussion, even to some reiterations, may not be out of place, as cements play an important part in our work, though fillings of this material can be regarded only as temporary.

It is pretty generally accepted as a fact that cement fillings last much longer in some mouths than others, due to a condition of saliva which from one cause or another acts less vigorously as a solvent than in another mouth.

Cements that will stand under water almost indefinitely, will in a few months yield and disintegrate, more or less, immersed in the saliva of the mouth. The chemical composition of the latter, together with the temperature of the body and the friction of the tongue and of mastication are features that account for this; and as temperature and friction are about the same in most all mouths, the difference in the stability of cements in different mouths would seem to be the difference in chemical activities.

While the saliva proposition may, and undoubtedly does, account to some extent for these variable lasting qualities of cement, it is quite as often, or perhaps more often, due to the lack of ability to mix the cement just right, or in the improper manipulation of it in placing it—working it too much after the mix begins to set.

Time and experimentation has taught that the best results are obtained in mixing cements by introducing but a small portion of the powder into the liquid and thoroughly mix in before adding more. Then introduce another small portion and repeat. Follow in the same manner until the cement is thick as required. Mixed in this way crystalization will not be as rapid as when larger quantities of powder are at once incorporated.

If the cement is to be used for filling it should be mixed into a

pretty thick dough. It should then be gathered into a ball and placed as quickly into the cavity as possible and forced to all the walls, and then shaped and contoured as desired, drawing the instruments toward cavity margins.

When once in place and shaped, precautions should be used to not disturb the bulk any further, though some trimming and shaping may be done exteriorly, to insure good and secure marginal outlines.

If the cement is of a hydraulic nature, as would plainly be stated on the label and directions, it should be wetted to bring out its best qualities in hardening, while keeping dry for as long as possible or consistent is the rule with non-hydraulic cements. Cements are taken as non-hydraulic unless otherwise indicated on the label and in directions. After the hardening has taken place further trimming may be done, that was contra-indicated while the crystalization was taking place.

It should be emphasized that some haste should be used to get the cement in place and approximately shaped up and fitted to the margins before setting begins to take place, and that the least disturbance of the mass after that the better. Some trimming may still be done, sweeping always towards the margins, and surplus cement should be dislodged from between teeth at the cervix before it gets hard, care being taken not to disturb the contact point, if the filling be an approximal one.

Any dentist of considerable experience knows, that with the same cement material, under what seem to be the same conditions, and in the same mouth, one filling will prove to be a great deal harder and more permanent than another.

There is, of course, a certain mix of powder and liquid under correct conditions together with proper manipulation that produces the ideal cement filling; but no one, not even the maker of the cement, can tell you just what it is; or if he should know that with considerable exactness he can give you no practical rule to go by that will enable you, in every case, to get perfect results. The material is of such a nature that it cannot be accurately weighed nor measured in the minute and varied quantities we wish to use it in. In consequence, we have to guess at the proportions to some extent and these are again influenced towards or from best results by the temperature of the slab on which the mix is made. 70 F. is about the correct temperature.

This temperature question may be best regulated, probably, by

using a suitable flat-sided bottle into which water of the correct temperature may be introduced just previous to making the mix. If the temperature of your office in summer ranks much above 70 the water used should be cooler, of course. In winter it may be necessary to warm the water.

Cement for an inlay is mixed the same as for a filling, except that it cannot be mixed nearly so stiff. For an inlay it should be mixed as stiff as it can be and permit of the inlay going freely and surely to place and displaying all excess by pressure. No time should be lost getting it to place after the mix is ready. Previous to mixing the cement, the exact way that the inlay goes in should be determined, so that there will be no puzzling and puttering about it until the cement begins to set.

It is a comparatively easy matter, some think, to get some glacial phosphoric acid and some oxide of zinc and put up an oxy-phosphate cement for dentists' use, but while those are the ingredients, they fail to make a cement that would be of any value, without careful, skillful, intelligent treatment to make them adaptable to our purposes. There are three conditions of the acid found: with no water, with too much water, and with not enough water. The exact condition suitable for dentists' cement must be determined and brought about by the cement maker; and his oxide of zinc has to be properly calcined and certain impurities eliminated, taking several days' watchful treatment in a furnace designed for the purpose and subject to accurate regulation. An experience and skill is required in this making of the cements for dental use that will tolerate no guess work nor half-way intelligence as regards every step. A good cement maker must be a qualified chemist.

When the cement comes to your cabinet it is incumbent upon you to treat it right if you expect good results. The liquid should be guarded against anything that may contaminate it or change the character of it. Steel and some other metals have a deleterious effect on it, and consequently should not be dipped into the bottle to lift out the drop or two needed. Steel spatulas should be avoided in mixing. Dr. W. V. B. Ames, a very eminent authority on cements, and a producer of some of excellent qualities, claims that a spatula of German silver is to be desired among the available metals, and even this should not be dipped into the bottle.

Nothing better to lift out a drop or more from the bottle is found than glass. A little glass rod may be used, or an ordinary glass

medicine dropper is good. The acid should not be dropped from the bottle, simply because the mouth of bottle around the stopper gets gummed up and contaminated. It also crystalizes more or less, and those crystals falling back into the bottle render what is left less good and useful. The powder should never be left uncorked any longer than is necessary to get out what may be required.

The calcining it has gone through drove out the last particle of moisture; hence, left open to the air, it begins instantly to absorb moisture, and after repeated opportunities of that kind, the powder has taken on other properties than is desired. Therefore, if the last of a bottle of powder is expected to be uniform with the first of it, it must be kept tightly corked.

Practitioners of twenty-five or thirty years will remember that previous to oxyphosphate of zinc cements we had oxychloride of zinc cements—zinc chloride instead of phosphoric acid as a fluid. This cement, while possessing some fine qualities for certain purposes, viz., filling roots (if one desires such a material for root fillings), being more in the nature of an antiseptic than oxyphosphates, was found to not have the lasting qualities of the latter used in exposed places. It has not the sticking nor the durable qualities of the cements we have now, or at least of the good cements we have now. None but the best cements should be used. Improperly compounded cements can never bring satisfactory results.

For the setting of crowns and inlays of gold in places not exposed, there is nothing that holds fast better than *oxy-phosphate of copper*. Its color, however, being jet-black, precludes its general use. With the exception of its color it is a better cement in every way than the zinc cements. Nothing is better as a filling for children's deciduous teeth. It is highly antiseptic, and it holds fast and wears better than any other cement. Its only fault is its striking contrast to the color of the teeth. This objection is not infrequently put to one side in the interests of preservation, and especially in teeth that are soon to be replaced. It is mixed precisely as is the zinc cements by incorporating very little powder at a time and rubbing it well into the liquid. It may be mixed pretty thick, for when introduced into the mouth the warm temperature first acts to soften or apparently thin it, but when setting begins it is almost instantaneous, or at least so rapid that one's efforts to set a crown with it, if in the least delayed, are apt to be defeated by it becoming suddenly hard. One may fill a shell crown with it, for instance, seemingly soft enough,

but before it can be placed it may become quite hard, requiring its removal quickly before it gets too hard, and a new beginning. Rapid action after the mix is made is very necessary to success, since the hardening is very much like melted wax becoming suddenly chilled.

If we had a light-colored cement with like qualities we would be much more certain of our inlay work. The writer has in many instances set porcelain inlays in posterior teeth with it. The black line about it, very distinct at first, soon becomes hardly noticeable, and it is not nearly so objectionable to a well-fitting inlay as one might imagine.

If we had no other cement that would hold an inlay, even the black line would be, in the estimation of the writer, preferable to gold fillings, in appearance, in front teeth. A fine delicate black line, well defined, often looks better than a clouded line.

Inlays have been set in bicuspid teeth where permanency of work was the first consideration, and where the black cement was expected to darken the tooth. To the writer's surprise, little such effect occurred, which may be due to the fact that this black cement has a surface like a mirror and thus reflects back the light that penetrates to it. Through a bit of transparent enamel, of course, the black would show, but through a reasonable opacity the blackness does not show and never discolors, so far as the writer's experience goes, as does amalgam fillings in thousands and thousands of cases. Experience, however, has been too limited to make this statement unqualifiedly and the experience of other observers along this line must be taken in verification or otherwise, as their testimony indicates.

(To be continued.)

DENTAL THERAPEUTICS

(By Geo. W. Cook, B. S., D. D. S., Chicago, Ill., Professor of Bacteriology and Pathology, University of Illinois, Professor of Oral Surgery, Dearborn Medical College.)

CHAPTER XXVII.

DENTAL THERAPEUTICS.

The therapeutic use of quinine, or cinchona, as this agent was first called, was a medicinal agent in malaria, or ague as it was called, long before there was any knowledge of the cause of this disease. The therapeutic use of quinine in malaria is considered to be about as near a specific for this disease as anything known in medicine up to the present time. When it is considered that it is only within recent years that the organism which causes malaria has been known, it is therefore easy to understand why a true value of quinine in the treatment of this disease was not better understood. It was in 1868 that Binz remarked that quinine acted directly on the malarial poison. Up to that time no one had suggested that possibly this disease was due to an organism capable of circulating in the blood and fluids of the body, and was the true cause of malaria.

It was through the investigations of Laveran, Marchiafava, Celli, Golgi and others that the cause of malaria was fully established by the discovery of a parasite which belongs to the protista, now well known as *plasmodium malarie*. This organism is very much smaller than the red blood corpuscles, which seems to be their most desired seat of action when found in the blood of man, and their movements in the fluids of the body are very much like that of the *amœba*. As they are studied microscopically it has been observed by many investigators that they have a number of stages of development, and when once observed under the microscope in any of these stages the picture is not easily forgotten. When they are found in a drop of blood the minutest amount of quinine will immediately arrest their activity, which indicates how fatal this drug is to their proliferation and also establishes the reason for the specific action in the cure of this disease. Quinine may be said to have almost the same affect on the *amœba*, possibly not so fatal in its action. There has been an organism found in the blood of birds that has practically all of the characteristic appearances of the plasmodia as found in man, but quinine has no deleterious effect upon this organism.

The explanation of the action of quinine on the plasmodium is

one of the strong indications that a specific may be found for every organism producing disease in man, for in this instance it acts readily upon the low forms of life as a protoplasmic poison, while on the higher forms of animal life it acts but feebly if at all, as a protoplasmic poison. Some observers have considered that this drug acts more as a tonic to the tissues, rendering them more resistant to the action of these low forms of life; but at the present time there is no question but that the action is upon the micro-organisms as a destructive agent. Observation has also shown that the best time to administer quinine is between the paroxysms, rather than at the time when the ague is on. This has been explained by some observers who claim that the micro-organisms are less resistant at the intervals between the attacks of the ague. Therefore, the best results are to be obtained by the administration of the drug between the paroxysms, thus lessening each attack, and sometimes when the paroxysms are several days apart they will not return at their usual time, and if they do they will be milder in effects and materially shortened in duration.

It has been observed in malaria that the spleen frequently becomes enlarged, and in such cases the administration of quinine reduces the enlargement of this organ, in some cases with remarkable rapidity.

Quinine should be administered from one to fifteen grains during the fall of the temperature. If the attack does not appear at its usual time the doses may be lessened and administered somewhat further apart. Many times it is better to administer it in small doses for a considerable time, say from one to two weeks, and the drug then left off for the same length of time, and then repeat this perhaps in smaller doses for ten days or two weeks, when it will be found that the spleen will be lessened in size and the white blood corpuscles will be fewer in number. Quinine has been administered with some benefit in enlargement of the spleen possibly due to other causes than that of malaria, leukæmia, for instance.

Quinine has been administered in various febrile conditions partially for its antipyretic effects and also for the reason that it is believed by some that it acts beneficially as an antiseptic in the blood. For the reducing of non-malarial fever it has some advantage over the newer antipyretics, in that it does not produce the depressed condition which the newer agents that are used will under some circumstances. In typhoid and scarlet fever it reduces the temperature

much slower than does some of the other agents, but in such cases, as in the case of malaria, it should be administered between the paroxysms when the temperature is lowest. Quinine has also been used in septicæmia for the reasons above mentioned, in that it is antiseptic; but observations have shown that bacteria are but little affected by quinine, especially the pus-producing organisms. Great benefit seems to have been achieved in the treatment of neuralgia and headaches, and in many instances where the germ of malaria could not be found. However, it is well to note that many cases of headache and neuralgia might be produced from a mild infection of malaria without being able to find the presence of these organisms in the blood.

In this connection I would like to refer to one of a number of cases that came under my observation some years ago, in which a young lady suffered from severe neuralgia. During the paroxysms of pain she suffered more or less from a general headache. She had been in the hands of a competent physician, and was sent to me with the view to determine the condition of her teeth. On the side of the face and head where the pain was most severe her teeth and jaws were in a sound and healthy condition, with exceptions possibly at the beginning of the trouble she had erupted a third molar, which had given her more or less trouble at that time. After thoroughly going over her teeth and jaws, I made an examination of the blood, and found that the red blood corpuscles were diminished in number; there was no great loss of red blood corpuscles, but a decided increase in the white blood corpuscles. These examinations were repeated several times at intervals of four or five days. In the meantime the seat of pain seemed to have fully established itself in an upper, left, second molar which was perfectly sound, as were all the rest of the teeth in that locality. Another examination of the blood, which was the fifth, revealed the presence of the malarial germ. On several occasions previous to this the patient had strenuously held out that it was impossible for her to take quinine in any form, but a prescription of salol five grains and quinine eight grains was recommended, to be taken every four hours for three days in succession; then that prescription was discontinued for three or four days, when she was put on quinine, ten grains three times a day, and the neuralgic difficulty disappeared and she has never suffered from that trouble since.

It so frequently happens that any slight disturbance in the oral

cavity may be very much increased in severity with persons who are suffering unknowingly sometimes from malaria. It has been my privilege in a number of instances to know of persons suffering severe neuralgic pains after the filling of root canals. In the individuals' blood there could be found the plasmodia of malaria, and on the administration of quinine in small doses, or sometimes large ones, as the case might indicate, both the neuralgia and the germs of malaria would disappear. In such cases the neuralgia would never have appeared perhaps had it not been for filling the root canal, neither would it have appeared if the individual had not been suffering from a latent infection, a condition that may persist for weeks and even months without the patient knowing really what is the cause of the symptoms of feeling badly, as they frequently put it. I have from time to time studied cases in which these neuralgic conditions appear, and sometimes acute pericementitis, which would not ordinarily appear unless the patient was suffering from these various forms of malaria, which is the means of rendering the body predisposed to all sorts of irritations, and these irritations manifest themselves through the nervous system.

It has been repeatedly observed that malaria may bring about certain forms of peritonitis in other parts of the body and incidentally produce well-marked symptoms of nervous conditions, which are capable of bringing about the neuralgic forms which manifest themselves in the nerve endings of the fifth cranial nerve. There are also certain conditions which manifest themselves in the pharyngeal or laryngeal spaces and are there sometimes in a very mild form, which will easily be aroused to considerable activity by operations upon the teeth.

It is so apparent to all that the general constitution must of necessity influence the conditions of operations in the mouth, and many times brings about a great many symptoms of pain not always of a neuralgic character, but of a nature that gives both the patient and the dentist considerable anxiety. An operation in the mouth, like that of filling a root canal, will, as we all know, produce many difficulties which cannot always be easily accounted for, and in such cases one should be well aware of the fact that it is due to some cause other than the local tissue surrounding the root of the tooth, and should be diagnosed as early as possible and a constitutional remedy should be administered, so that the patient may be relieved of the difficulty as early as possible.

It is well to state in this connection that all neuralgia pain following the insertion of a root canal filling is not always due to malaria. Persons suffering from any nose or throat difficulty, which is purely local to these parts, may at once assist in producing pain and possibly dental inflammation, when it otherwise would not appear. Any irregularity in the digestive apparatus or the absorption of a toxic material from the alimentary tract may produce the same condition, or in those cases where there is a persistent rheumatic condition, which is looked upon at the present time as some infectious condition, there may be these same symptoms of nerve irritation and many times they have been the cause of dentists removing root canal fillings that had been inserted under the very best possible conditions, and the patient after the removal of the filling did not get the desired relief. There is perhaps no point in the practice of dentistry that gives the annoyance as does these very cases, and there is nothing so important in assisting to make a clean diagnosis of the conditions that exist in the patient as those things which act as a predisposing factor in the causation of such difficulties.

The sterilization and preparation of root canals for filling is by no means all there is to be considered in these operations, and in semi-malarial districts there are some very important points relative to the general constitution that must be considered in connection with the filling of root canals and the comfort of the patient after such operations. In this connection I might recite a case in which a neighbor dentist had filled the root canal of a tooth after thoroughly preparing it for such operation. The patient returned in a few days with soreness in the tooth that had been filled, with shooting pains, as the patient expressed it, through the side of the face, neck and head. The canal filling was removed, palliative treatment was placed in the root canal and the patient seemingly got better of the difficulty. Only for a few days and the symptoms began to return. The canal dressing was removed again and another treatment placed in the tooth. The soreness in the tooth subsided, but the neuralgic pain persisted, and, in fact, grew worse. The patient talked over this case with me and we decided that a blood examination might give some clue to the cause of this persistent neuralgia. The blood was examined, to find that the white blood corpuscles had very materially increased in number, which was an indication that the patient was suffering with some form of infection unknown. The neuralgia persisted, with intervals of severe pain, and then the trouble would cease

for several days. During one of the periods of intermission of pain the root canal was again filled, only for the severe neuralgic pain to again return. The filling was removed the second time; another blood examination was made, to find that the leucocytes had increased in number over that of the previous examination, but in the last instance we were able to make out the granular appearance that sometimes appears in the red blood corpuscles where the mild forms of malaria exist. The patient was put on quinine, ten grains three times a day, and in 48 hours the blood was entirely freed from the malarial granules; the leucocytes diminished in number, the neuralgic pain disappeared and in a few days the root canal was again filled without there being any return of the diseased conditions above described. In another instance I recall where the treatment of the tooth was practically the same as above described, with the exceptions that the pain persisted in and around the tooth for several days in succession until it became unbearable, and the tooth was extracted without any succession of pain. A blood examination at once revealed the fact that the patient was suffering from malaria and only got relief when she had been treated for the malarial symptoms.

In reciting these cases one might think that all sore and neuralgic teeth after the filling of the root canals might be due to malaria or some of the other conditions just mentioned, but it is not true, but that the large majority of sore and neuralgic teeth are due more to imperfect treatment than to imperfect filling of root canals. For the reason that many of the teeth remain for a long period of time as useful organs of mastication with imperfect fillings in the root canals, is due more to the fact that the root canal has had the proper biological treatment before any attempt was made to fill the canal. I think the time will come in the future when the treatment of root canals will be performed with a logical and scientific truth for its basis, but even that will not eliminate the conditions which have been discussed in this brief manner.

(To be continued.)

ORIGINAL CONTRIBUTIONS

TOOTHsome TOPICS.

By R. B. Tuller.

Good, bad and indifferent;—and measley.

Most men are good, bad and indifferent by fits and starts.

Not so *terribly* good; not so *gloriously* bad; passably indifferent, etc.—a good bit, etc.

But a measley man, huh!—a measley man don't throw any fits and starts, but is *it* all the time. He is simply and unqualifiedly measley through and through.

If it don't stick out one place it does another, and he is a long hop, skip and a jump away from the noblest work of his Creator.

I've known men in our profession who really—well, who average up through the year pretty good.

And yet, at times—after a vacation in the country or at the sea shore—they will laspe into wonderful fish-stories and other ananiasities.

Yea, some of them will even show you a photo of themselves holding out at arm's length and by their little finger, a fish as long as themselves, weight 97½ pounds.

There it is, as plain as day, and cannot well be denied, since photos *are* things of strict veracity; but let's see you hold out now half that weight at arm's length and on the end of your little finger, and retain at the same time that unstrained and placid countenance shown in the picture. Fudge!

It is a question in my mind whether vacations are really all they are cracked up to be; and especially when there are such vacations in one's truthful qualities as a consequence.

It is a nice thing to come back all browned up like an Indian, but that can be acquired, by a studied effort, without going far away from town or staying long; and you can send out your cards just the same.

Dr. Sunburn, having returned from his summer vacation, begs to inform his friends (and incidentally the public) that he feels greatly refreshed and invigorated, and ready to bore, scrape, grind and pound with renewed energy, etc., etc., and hopes, etc., etc., and is doing business at, etc.

I happen to know that last summer Dr. S— was not out of town except for a few trolley rides—out to where he could remove his hat, collar and cuffs, without offending the conventionalities of the city, and bask in the sunshine.

That's all right; but he sent out the announcements at the right time—when other people were returning—and he has a photo of himself in a boat, in outing outfit and handling the oars,—that is, his hands were on them just like he knew how—hung up in the office. Also the fish photo.

The snap was taken at Manhattan beach and thus the snap is given away. A string of small perch held directly towards the camera at the end of a ten foot pole comes into focus in such a way, in comparison with the man, that they look about ten times their real size. Photo made and finished while you wait for 25c.

Well, no, not I. I never took a vacation. But I was with a fellow once who was taking one, and he showed me how it was done. I'm not very much inclined to vacate. Chicago is a good summer resort.

As I remarked we have an average good lot of men in our profession, but some of them, sad to relate, are bent on going the devil's pace—and then you find them standing at the bar—of justice. You know them; they have practiced frenzied dentistry, or something, I know not how, until they have accumulated an automobile and then they venture out on the North Shore road, doing their own chauffing, just to show how daring and devilish some dentists may be.

"Twenty-five dollars and costs; and if you are found out this way at that pace again, it will be doubled. Want a bondsman? Well, you can go and find one. Leave your wagon here and walk."

Then we have those too,—average good men—who yet are so carried away with shinny that they may be found most any shiny Sunday out on the links instead of being at church, where most of us may be found—whenever we are thus discovered.

Now, to be candid about these fits and starts, I have seen a really good man—and I mean a dentist of course, deliberately and placidly "set in" to a game where red, white, black and speckled beans were in evidence.

They looked as innocent as any other beans, but a pot of these beans were worth more than ten cents a quart; and I've seen a man with the best hand take the money,—I mean the beans.

Why, I have seen a real, good, skillful, highly regarded dentist,

take the "pot" on a bluff; and if that isn't coming pretty near to tainted beans I don't know what is.

My! I could no more take such beans than I could borrow another man's umbrella on a rainy day because it happened to be standing around inviting a new acquaintance.

I could not take the pot because some other fellow would get gay on a pair of measley duces. The nerve of some men! Some men can go and stick their hand down a dark hole and pull out a gold watch—or a sunburst.

Of course the point of view about such things has much to do with a man's irritability.

I wouldn't have such money. I keep saying money. Well, let it go at that. I wouldn't have it. That is to say, at least, I wouldn't have it long—not if my luck changed and I quit a hundred and 'steen winner.

I never could bet on my luck. Whenever I get sporty and buy a stack, I just kiss the two bits good bye and let it go—like the Irishman who dropped a five dollar gold piece into the church box for a nickel. He soon discovered his mistake and retraced his steps to interview the priest and see if he could not make the exchange. But at the priest's door a change came over him, especially as he was a little doubtful as to the success of his errand, and he turned away saying, "No, I won't go in. I gave it to God, so now let it go to h-e-l-p the poor."

We hear a good bit now-a-days about tainted money and I loathe it. Going to horse races and picking the winner comes pretty near getting tainted money. 'Taint the right way to get it. A good man won't do such things. I never did it in my life—never picked a winner.

I am suspicious of all kinds of money—not that I ever get all kinds of money—but you never can tell whose hands it has passed through. I'm leary about money. Has it not always been called "filthy lucre?"

I have a gambler's wife—so said to be—among my patients. She wants expensive inlays and the best of everything, and never "kicks" on the bill. She always pays in nice, new, crisp currency; but say, I always hate to take the money!!

But then, there's the rent and things, and so I take it, fumigate it—that is, blow a few whiffs of smoke over it, look at it a little and

pass it over to the landlord. I suppose he wants it to burn—anyway he wants.

Money is the root of all evil, but I'd like enough of it to pay my debts and let the other fellow take care of the root part. I certainly have done good with the meager portion that has come my way. I've kept several people from starving to death for a number of years, but not with wine suppers and sich, nor even chop sueys, but I better knock wood, hey?

I notice most dentists are good men and satisfied with humble money. Did you ever hear of one engaged in frenzied finance and accumulating millions? I know *nearly* a million frenzied dentists who haven't accumulated a hundred thousand cents—and with some punched coins in the lot at that.

But we'll drop the money—that's proverbial with me—and talk about another phase of being good and bad and indifferent. There is another old saying that homely people are generally good! Gee! I know some people that if they were any *gooder* than they are would simply become horribly deformed. They couldn't stand the strain, and I'm mighty sure the rest of us couldn't.

I know some people so good, including a *few* dentists that they would not only stop the proverbial eight-day clock, but would make one of these devilish mile a minute automobiles shy up against the curb and burst a tire. Have you a mirror?

I personally know one of our profession so good that he can break up a setting hen by looking her straight in the eye for 317 minutes. He says he can, but if I was the hen I'd quit in about one minute.

We have among us some good church members—they mean to be good, but they slip up now and then—when a banana peel sneaks surreptitiously under their foot. It is mighty hard work to be good every minute, and especially when taken so suddenly unawares.

I heard a minister once say, "If I want evidence of the depth of a man's Christian inclination let me walk behind him when he steps on a banana peel." He didn't say anything about a woman under like circumstances. We know a woman would say, "Oh my!" It is we men who fall from grace.

There is another way to try a man on shorter order than following about waiting for the banana peel event. Just go up and kick him on the shin. If he smilingly raises his hat, and presents the other shin, you can bet he's the real stuff.

All the same I wouldn't kick again, and it might be well to pro-

claim that the first was a mistake, with apologies. Some church people have vials of wrath on tap for ripe occasions.

I think some of us might take a pointer from an Irish woman, who, the priest noticed for some time, always made a bow every time the name of Satan was mentioned. A little curious he asked her, when an opportunity presented, why she bent in a reverent way every time he mentioned Satan. "Well, your riverence," she said, "it costs nothing to be civil, and we niver can tell what *may* happen."

I know a man, and so do you, who is contemptible. He is sneakingly mean. He beats his wife because she is weak and timid and can't strike back. He is cussed in all sorts of ways that don't take any backbone or sand. He's a coward. *He'd* go up and kick a man in the shins—if he, the *man*, was tied hand and foot. He'd play poker, if he could be sure of winning all the time. He'll play if he can skin a tenderfoot. He sneaks away alone to the theater—important business—and leaves his wife at home. He has swell clothes but lets his wife go disgracefully shabby. He upholds the plain frugal diet at home but fills his measley stomach with all sorts of rare bits and dainties down town. He discountenances desserts at home, they're not healthy, but buys and eats, all alone, all sorts of luscious fruits. You see him munching caramels frequently, but he never takes any home. He measures all men by his own yardstick—narrow, mean, contemptible. He discredits honest, worthy motives because he has none himself. He sneers at honor and integrity, and speaks well of no one. The honor of woman, wife or maiden, is to him a myth, and he leers at every comely girl with sentiments that would make a yellow dog blush. He has a smirking way with women that makes a MAN feel like smashing him in the face. And that has happened two or three times. He boasts over his exploits among the fair sex—a foul, unhealthy imagination—as though most of humanity was of a low, debased kind like himself.

His name is Measley—Will B. Measley—in spite of —, from Measleyville, Measle County, State of Cussedness.

(Toothsome Topics every month)

SOCIETY PROCEEDINGS

DOCTORATE ADDRESS

BY GEO. W. COOK.

Mr. Dean, members of the faculty of the Lincoln Dental College, Patron College of Dentistry, University of Nebraska, ladies and gentlemen, and members of the graduating class of 1905:

Today you stand upon the threshold of your professional existence. This is an eventful day in your calendar. You have perhaps in a slight degree learned that there is no genius like that derived from energy and industry. The goddess of ambition who comes at some time to every man has knocked at your doors and her rewards are being partially realized. You recall the many hours of toil you have spent at your studies where you have been harassed by a thousand doubts, while again you have felt almost certain of success. Now the proud moment has come when you must feel more of manhood than you ever before have felt. Your scientific studies have led you to loftier ideals and have placed you where it is possible for you to stand in closer relation with the broadening influences of the greatest philosophers of your time. The new intellectual power that you have gained seems cheap at any price.

Perhaps one of the most distinctive features of the history of civilization in this country for the last fifty years is the phenomenal development in the field of the science and art which you have chosen for the special work of your lives. During the remarkable advancement in the multiplication of the commodities and conveniences of existence the general standard of comfort has been raised; the ravages of pestilence and famines have been checked; and the natural obstacles which time and space offer to mutual intercourse have been overcome in a manner and to an extent unknown to former ages.

One of the main features of your life will be to administer in person to those who suffer pain, and to add comfort to the physical well being of those who may trust themselves to your care. The practice of dentistry not only demands high knowledge of character, but it also demands ability in the various applications of

that knowledge in the alleviation of the suffering of humanity. You have, doubtless, felt the value as a means of mental discipline of the acquiring of such knowledge and you also appreciate its worth as practical information. Its usefulness in this way will depend upon your ability to comprehend the situation surrounding the condition to which the knowledge is to be applied; for you have, without doubt, learned that the laws governing physiological forces are variable, both qualitatively and quantitatively, in accordance with the environments of the individuals to be treated, as well as with the appreciation in such persons of the highest aesthetic art and with their comprehension of the value of hygienic surroundings.

The role of life that you are to play will be largely that of teacher, and you should ever bear in mind that the greatest privilege of men is that of giving counsel. Those who seek your assistance in physical ailments must of necessity trust in your integrity and have faith in your ability. You should ever remember that integrity and duty are qualities that you owe to yourself to maintain, and that you should manifest truth and veracity to those who seek your service. You have been deeply interested in studying the fundamental principles of those biological phenomena which manifest themselves in the mouths of different individuals as diseased conditions, but, from this day, your efforts should be to blend those principles and the laws of disease which you have studied, with truth and with sense of moral obligation to your fellowmen, and especially to those who seek advice and service at your hands. There is but one way the members of the human race can draw assistance from each other and that is through their hearts and their intellects, and if you lack in these your best efforts will be materially impaired.

In the study of the fundamental laws of nature, which is literally scientific investigation, there is a great broadening of the human intellect which must of necessity impress itself on the human mind as the great fountain from which the moral influences of man must flow. It was Emerson who said, "Nature seems to exist for the excellent. The world is upheld by the veracity of good men: they make the earth wholesome. They who lived with them found life glad and nutritious." Therefore, as you enter upon this professional career, do not let the brilliant possibilities of chance blur the perceptions of the task and rewards that are legitimately before

you. It will be to your humble efforts that the enduring achievements of your profession must depend for its future progress.

Today you have reached your professional manhood. This means a great deal to you; it foreshadows all the rest of your professional growth. It is to be hoped that this thought will kindle your soul to new and loftier dreams and to higher professional ambitions. As you come in contact with the world as a professional man you will more and more realize that the public considers that your knowledge of the science and art of dentistry should be absolutely perfect. But as a matter of fact, as you advance in experience and have had the opportunity of testing the fragmentary knowledge you have gained in the course of your studies, you will come to understand how crudely and imperfectly many things work out which you now look upon as absolute facts.

Your advancement in the study of the science and art that you are to practice has been very largely furthered by personal contact with those who have assumed the role of teacher and with whom you are about to lose your close association. You should be aware that your future advancement will be very largely in accordance with your comprehension of the fundamental principles which you have received here and which are being worked out by your fellow practitioners. You should ever be ready to listen to the voice and words of these men who have had better opportunities, by years of experience in practice, to comprehend the exactness of their knowledge and of the information they have gained since they began to assume the responsibility of looking after the ills of mankind in a special department. A respectful attention towards your fellow practitioners will create a sort of a vantage or purchase which cannot be supplied by any other means. You will learn by the association with them that you can do through them and with their assistance what you cannot do alone. If such relation is based upon moral and ethical ground you will be able to say to your fellow men that which you cannot say to yourself. You will soon come to a full realization that the pure nature of your moral self comprehends all fundamental truths to have a practical side, and true moral laws to exist when they take cognizance of character.

Therefore, there is but one way for you to succeed in the practice of your chosen profession and that is to work to an ideal in professional ethics, and to realize fully the opportunity and beauty in your relations to those who seek service at your hands. Remember

that honor and reputation is but the revealing of virtue and worth. Some men affect honor and reputation, which may be much talked of but inwardly little admired. They darken their own virtues; their opinions become valueless. Therefore you should avoid affecting honor and reputation, but should submit yourself to your fellow-practitioners only as a student of the fundamental laws pertaining to your calling, ever bearing in mind that you owe special debts not alone to yourselves but as great a one to your profession and to the communities in which you are placed. If you are a student of nature and the laws of society you will be a constant contributor to the uplifting of your fellow practitioner; not alone will it be your work to give relief to suffering creatures and send them joyfully through life. Many will be incapable of seeing how well you have served them, but the thinking part of the world will point its finger of admiration at your worthy attempts. You should invite and embrace help and advice from those capable of giving advice, remembering that you can pay no higher compliment to a scholar and gentleman than that paid by seeking his counsel. Individuals so honored never treat disparagingly of any task that you have attempted, and possibly failed in, provided there is some understanding with reference to the case.

Individuals who stand at the head of their profession are usually of a type to which belong those who have been students both theoretically and practically; these usually share the ideas of the time and are ready to sympathize with the inexperienced and speculative classes. It is not from the excellent men in any profession or calling that disparagement of others is to be looked for. Most scientific and learned men are usually, and should be, cordial in the recognition of attempts at intellectual attainments. I cannot better illustrate to you a true professional man than by repeating to you a little saying which emphasized the character of the late Dr. Fenger of Chicago. It was: "What do I care for a man who has legs and arms like me? What is most important is that he should have a heart in him." And he was the highest type of a true professional gentleman. He would never allow anyone to speak in belittlement of his professional brethren. He loved the man who was a student, and especially if he were a young man he was ever ready to give him advice and encouragement. He further said: "What the world needs most of all is a student of science and especially one who is dealing with the problem of human suffering." His idea was that as the laity is strengthened in its belief in the truth and

value of research and in investigation, the greater will be the possibilities of advancement along professional lines. He believed that nature reported well her activities and that all natural things are actively engaged in writing her history. The planets and the pebbles are both attended by their own shadows; the rolling stones from the lofty clefts leave their marks on the mountain side, the rivers their furrows in the soil; the bones of animals are to be found in every stratum of the earth; the leaves and the ferns have written their epitaphs in the coal-fields, and the falling rain-drops leave their images impressed in the sands upon which they ascend: all of these are capable of portraying, in some form, their usefulness to mankind.

And it is with you young men to convert some of nature's laws into useful applications to the cases of your calling, and while you are studying out the various phases in which you can apply these laws you are building a tower of moral strength and justice that will stand out before the world as something useful to humanity. Your usefulness to society should be your first and great aim in life. In order that you may comprehend the true meaning of your thoughts you should strive to give imitative expression to anything that may seem useful to your professional brethren. Remember that every act and thought that has sensual and selfish aim will sooner or later result in failure; in order that your work may be useful to yourself, as well as others, be sure that it is based upon the very foundation of truth and morality.

You are now entering a new profession. A little more than a half century ago the calling of dentistry was practiced as a crude art. But its progress as an art and science has been marvelous in its evolutionary processes. A bystander looks upon it now as something new, and its importance is still but little understood by the laity as a whole. It is true that few men have entered its ranks that stand out as rugged figures on its horizon, but a sufficient talent has entered its field from time to time to make the profession one of the great necessities of human comfort. A brief glance back into history reveals the figures of such men as Harris, Webb, Allport, Taft, McKellops, and we still have with us Miller and Black, who did and are standing for the highest ideals in our calling; and we have to the West the great and newly recognized center of dental education, a center which the civilized world looks upon with great admiration.

Today you leave the halls of one of the great educational institutions of this country. You are today prepared to depart with a technical learning that is second to none in the educational world. It now remains with you to make success or failure. You have learned from the study of biological phenomena that nature has many truths whereby you may make your life a success, if you will but study more earnestly the higher laws which you have in the past been unable to comprehend. But remember that honesty of purpose, morality, and an ideal in work have the only avenue by which true success can be reached, and if you will ever keep these three qualities in mind you will learn that you owe a great deal to the institution that is today giving you a passport into professional life. It will be but a short time before you will realize, more than ever you have realized, that you owe much to the personal contact and care of those who are bestowing this great gift upon you. And it matters not where you may go this Foster Mother is watching your progress in life's journey.

You should meet the world in a happy and graceful manner, for as the adage goes, "Laugh and the world laughs with you, weep and you weep alone." You need not expect to reach success with a bound; it comes through an evolutionary process and can only be attained by way of cheerful paths. Let the task be ever to make yourself worthy of success, so that whatever fate your efforts may meet with you need not lose courage, but may have confidence, sincerity, generosity and tenderness: it is these alone that are fixed and unchangeable. It sometimes happens that fate withholds her smiles even from the humble and most upright of men, but you should go from reality to reality seeking food for the incomprehensible flame of life, making certain that you have fulfilled your organic duty to your fellow men and yourself, and then you will be prepared for whatever may befall you. Let us nourish the child of ambition on every field and passion, on all that we see and think, and on all that we may hear and touch, and the time will come when all things will turn naturally to its good in that spirit that gives itself up to a loyal desire for the simpler part of human duty. And as you strive for the higher ideals in your professional life your duty will be rendered clear to yourself and those about you, and when you have written the last page in your portfolio and sit in the dim weird light of destiny, you can say with a clear, conscious soul, I have done my duty to my alma mater, to my profession, and to myself.

* PRESIDENT'S ADDRESS

BY DR. J. V. CONZETT, DUBUQUE, IA.

Fellow Members of the Iowa State Dental Society:

There is a legend that the mothers of the Orient delight to tell their children, in which they tell them of a wonderful key flower which is hidden away in some secluded recess of forest, mountain or plain, the finding and retaining of which secures to the fortunate possessor the choice of the treasures of nature. It is told that one day a lad in search of this flower, found it at the foot of a tall mountain peak, and with a shout of joy he gathered it to his bosom, when, immediately the hill before him opened and an old man came forth and bade the boy welcome to the cave in which the old man lived, there to make such choice of the treasures with which the cave was filled as he might desire. The boy entered, and in his great excitement at beholding the vast array of gold, silver and precious stones, he dropped his flower and began to fill his pockets, his blouse, his hat and everything that he could convert into a receptacle, with the treasures that lay about him in such abundance. When he had as much as he could possibly carry he turned to go, when the old man called him back and said, "My boy, you have forgotten the best." The boy came back and thinking that he saw larger and better pieces of gold and brighter stones, he emptied his pockets and filled them up again with the better treasures and again essayed to go, but again the old man called him back and said, "My boy, you have forgotten the best." So again the boy emptied out his treasures, and again filled his pockets, blouse and hat with the very best of the gold, and the most exquisite and rare jewels and again turned to go. But again the sad voice of the old man would have prevented him with his cry of "My boy! My boy! you have forgotten the best." But this time the boy pushed on, and, the door of the treasure cave closed behind him forever. As he went he stopped to gloat over his treasures but lo! his gold and silver and precious stones had turned to sticks and stones and clods of dirt. Then, when too late, he remembered that he had lost his key flower.

To the student in our colleges is given the key flower of study and investigation. With these the treasure house of nature can be unlocked and the fortunate possessor may take his fill of all that nature has to offer, but only at the price of retaining the key. Too many men when they enter the practice of their profession and see before them the alluring prospect of money making forget to study; forget to investigate, and blind to their danger go on from year to

year, until some day they are rudely awakened to the fact that the profession has gone on, and they have stood still, or gone back, and the treasure of their practice turns to emptiness and remorse. It is "keeping everlastingly at it that brings success," and he that feels that he has "apprehended as tho' he were already perfect," and does not need the stimulus of meeting his fellow practitioner, is to be pitied indeed, for he is well on the road to failure.

The State Dental Society is, or should be, a post graduate school where the practitioner can come and study new methods, gain new ideas and go home with an impetus to better work and nobler ideals. But the criticism is made that the Society is not living up to its highest possibilities. Men tell us repeatedly that they do not get enough out of the State Society to pay them for the trouble of coming. Many of us smile at such statements when we remember the tremendous uplift that we have received, as a result of attendance upon these meetings, and yet, as I have pondered upon this question and have thrown upon it the light of my own experience, I must confess that there is a modicum of truth in the criticism. It is not that there is too little here that a man may take, but rather that there is too much, and a fellow tries to take a little of all and gets nothing. But the man that comes for one thing, allows nothing to distract him from the pursuit of that thing, goes home enthusiastic over the result of the meeting, for he has received that for which he came.

Is there a way to remedy the difficulty and make the society a larger influence for the development of the men of the profession? I think there is, and I wish to submit a plan that has been upon my heart for some time. I bring it before you that it may have the benefit of your wisdom. I trust that you may feel as deeply concerned about the welfare of the Society and the development of the profession as I do, and will fully and freely discuss and criticize the plan I lay before you, remembering through it all that what I have to offer may not be the best, nor do I have the egotism to think so, but it is the best solution of the problem that presents itself to my mind and I lay it before you in the hope that your wisdom may so develop it, that it may prove to be of great value to us as a Society and a profession.

This is a day of specialization, and our profession has grown so that it is impossible for a man to be an expert along all lines thereof. So we find men devoting their energies to some particular branch of the profession. So we have our Operative Dentists, our Prosthetic Dentists, and our Orthodontists, etc., etc., and we all find our-

selves devoting more time to some particular branch, than any other, because of personal aptitude or liking for it. So might it not be a good plan in our Society to draw together men of like tastes and inclinations, and have them form a section within the Society for the study of their specialty. I do not mean to cut the Society up into sections, as is done at the International meetings. That would be a calamity indeed. But to illustrate: some years ago a number of the men of the state felt that they would like to make a more thorough study of the question of gold fillings. They therefore formed a club, called it the Wedelstaedt Dental Club and asked Dr. E. K. Wedelstaedt of St. Paul to become the demonstrator of that club. For several years the men of that club have been studying gold fillings, and the result has been that they have become experts along that line. Now what would prevent the organization of similar clubs within this Society for the study, for instance, of the Porcelain inlay, and have as a demonstrator some man of skill and enthusiasm to lead them? Another club to be formed of men that wished to study crown and bridge work. Another for the study of Prosthodontia as it is applied to artificial dentures of all kinds. Another for the study of Orthodontia, etc. The meetings of these clubs to be all distinctly separate from the annual meeting to the State Society, and yet all the members of these clubs to be members of the State Society and to report to it at each annual meeting. Then during the year each Club would study its special branch under its demonstrator, hold as many or as few meetings as the members might elect, and at the annual meeting of the State Society present the result of their labors to us. Thus the Wedelstaedt Club would present a paper on gold fillings, embodying the principles that they have learned and any new ideas that have been brought out by their labors, and at the clinic they would present their most proficient operators to show the results, and the methods that have accomplished such results. This will be done by this Club at this meeting, so it will make a practical demonstration of the point I am trying to make. The Thompson Club, or the Roach or Cheeseman Club, or you might do worse than to have a Work Club or Dana Club, would present in a paper the principles of the Porcelain inlay and any new ideas they might have worked out along that line, and at the clinic they would present their best operators to show us the results of their labors. So all along the line. We would have papers from every club and then at the clinic we would have a demonstration of the work accomplished. Then if a man came to the State Society he would go to the section that interested him most, he would join that Club and if he desired he could make of him-

self a valuable member of that Club, of the Society, and of the profession. I say if he desired. For the matter of success is entirely a matter of personal equation.

Mr. McCutcheon in a cartoon, some time ago, preached a sermon that I wish might be assimilated by every young man in this country. In a large picture he showed the interior of the office of a large concern, and in a large compartment railed off from the rest of the office sat a well fed, prosperous looking individual at a desk, dictating to a typewriter, who sat at a desk near by. In a far corner of the same room outside the railing, of course, sat a seedy looking individual gazing at the manager with envious eyes, and he was solloquizing, "Now there is Brown, he works about half as long as I do, and gets \$10,000 a year, while I slave along here all day, and hardly get enough to keep soul and body together. I wish I had his snap." In a small picture below the larger one is shown a dark, dingy little room. At a desk poring over books in profound study sits a man, and the clock on the wall registers 12 o'clock at night. The sentence that laconically points the moral is, "How Brown got his snap."

There is no royal road to learning. There is no easy route to skill. If you and I are to be successful in the practice of our profession, we must concentrate all of our efforts along one line, and when we have acquired the skill we desire along that line, we may take up some other line perhaps, and in that way in time we may develop into all round practitioners.

The Illinois State Dental Society has recently reorganized and as a result have, I am told, almost trebled their membership. I feel assured that we could do as well if we were to follow their example. But I would go a step farther than they have done, and while making all of the Societies of the state feeders to the State Society, I would give to each of these Societies some special work to do, some special study to develop, and in so doing I believe that we would get much larger results than can be attained by the present hap-hazard, happy-go-lucky scheme of getting what we can and letting the rest go. There are many other problems that I might bring before you at this time, but I refrain from doing so because I believe that this subject is the one of prime importance at this time, and I wish to devote all the time and energy of the discussion to the consideration of this one subject. If I may make a suggestion it would be that the Society at this meeting either appoint a committee to take up the subject, or instruct the officers that shall be elected at this meeting to do so, that the meeting next year may be along the lines that your wisdom may suggest.

***ALVEOLAR ABSCESS, ITS COMPLICATIONS AND TREATMENT**

By THOMAS L. GILMER, M.D., D.D.S., CHICAGO.

This is a subject that is old to the students of dentistry, it may be considered threadbare by some; still there are some subjects which bear working over, time and again, and this is one of that sort. On this account I offer no apology for its presentation.

Strictly speaking alveolar abscess is an abscess of whatever origin located in the alveolar ridge of either jaw. However, by common acceptance the name alveolar abscess is restricted in location, and less comprehensive in its origin. What we understand pathologically by an alveolar abscess is that it has but one origin, namely, from poisons produced through putrefactive changes of the contents of pulp chambers and pulp canals in the roots of teeth, and in its incipency it is always restricted anatomically to the peridental membrane in the apical space of a root's socket.

There are pseudo alveolar abscesses or, according to Black, lateral alveolar abscesses, which in a broader sense, as before said, may be denominated alveolar abscess, but which are not thus classified in the restricted nomenclature.

The pseudo, or lateral abscess of Black, has its origin in the peridental membrane, as in the case of specific alveolar abscess, but its location is on the side of the root, not at its end, and its cause does not depend upon the disintegration of pulp tissue or putrescent material in root canals, but upon traumatism or other causes extraneous to the canals. Indeed the tooth's pulp may be alive and free from pathological condition in this form of abscess.

We find as a result of impacted teeth in which the pulps are fully alive, most serious abscesses in the alveolar process, with symptoms very nearly identical with true alveolar abscess. Occasionally as the result of the so-called "pyorrhea alveolaris," we find a lateral abscess on the side of a root having a live pulp, originating midway between the gingival border and the apex. Neither macroscopically or by the use of the probe can be found an opening connecting the abscess with the gingival border, but it is easy to understand that the infection may have followed up the lymph or blood channels and an abscess formed, resulting at the point indicated. It is not this class of abscesses that I shall consider and I only mention them in order to differentiate the true alveolar abscess from the pseudo alveolar abscess.

In order to trace the true alveolar abscess from the initial start-

*Read before the Iowa State Dental Society, Des Moines, May 2, 3, 4, '05.

ing point we must go to the pulp of the tooth. The first inflammatory movement which leads to suppuration of the peridental membrane, which is the abscess, is found in a hyperaemia of the pulp. Unless nature restores the pulp to health the following sequences rapidly or more slowly follow hyperaemia, viz., pulpitis, pulp necrosis and pulp putrefaction. During pulp putrefaction there are formed poisonous ptomains which pass out through the apical foramen into the apical space causing a pericementitis, which may result in an alveolar abscess. In the apical space we have a greater thickness of peridental membrane than on the sides of the roots of the teeth, besides we find distributed there, larger and more blood vessels than are found on the sides of the roots, also more nerves. These are housed in, in a small compass with a bony wall completely surrounding them, leaving little room for distention of the walls of the blood vessels.

Pulps of teeth having no oral openings may die and occasionally under such conditions become mummified, dried up, with no putrefaction taking place. Such teeth do not abscess at once or it may be for a long time, since there is not present either moisture or the saprophitic micro-organisms to cause disintegration. However in time the roots of these teeth usually do permit a sufficient leakage of the more fluid parts of the blood into the pulp canals and with it those other elements necessary to cause putrefaction, when we have the formation of the poisonous ptomains. The formation of gases through the chemical changes which of necessity follow, cause sufficient pressure to force the poisons out into the tubuli, discoloring the teeth, and also force the poisons out through the constricted foramen into the peridental membrane, resulting in an acute or chronic alveolar abscess. If the constriction of the apical foramen is too minute to permit more than a very small quantity of the poison to pass out at any one time, we may not have the acute form of abscess preceding the chronic, as is the rule, but a slowly forming abscess known as a blind abscess. This form of abscess may at any time from lowered vitality of the patient, become an acute abscess.

The symptoms at the onset of an acute alveolar abscess are soreness of the teeth to touch, with slight elongation. The soreness is due to the inflammation in the peridental membrane, and the elongation to the thickening of the membrane, or shortening of the fibers of the membrane which fibers are so placed as to elevate the tooth when contracted. As the disease progresses there is pain, of a more

or less serious nature, from the pressure on the nerves by the distended blood vessels. This pain increases the flow of the blood to the already highly injected membrane of the apical space, adding to the pressure and consequently also adding to the pain. This congested condition leads to stasis and extravasation of blood in the apical space. Owing to the injury of the tissues at the end of the root the conditions are favorable to suppuration, the only element lacking is the presence of pyogenic or pus forming micro-organisms. These are usually present, coming either through a cavity in the tooth, communicating with the apical space, or through the blood channels. As soon as pus is formed, unless it is evacuated by opening up the canals, or by cutting through the soft parts and bone at the apex of the root, there are constitutional symptoms, indicated by fever or by a chill followed by a rise in temperature. These symptoms indicate that the system has absorbed a sufficient quantity of the poisonous products of decomposition or of suppuration to produce the conditions indicated. At this time there is more or less swelling of the soft parts over the abscessed tooth with sufficient edema at times, if a superior cuspid is the causative factor, to close the eye on the affected side; when the lower teeth are abscessed and cervical lymphatics are frequently involved. The pus formed causes rapid absorption of the bone, immediately about the apex of the tooth on account of the very cancellous nature of this bone in this locality. When the pus reaches the outer plates of the bone, absorption becomes less rapid, the bone being more dense offers greater resistance. On this account large areas of the less dense parts of the bone about the end of the root are often destroyed before the pus gains exit through its cortical portion.

The pointing of an abscess is determined by the nature of the tissue against which the pus exerts its influence; that direction offering the least resistance, determining the course the pus will take to find exit. Usually this is toward the buccal plate of the bone. This may be accounted for from the fact that usually the apex of the roots of the teeth are more closely associated with the buccal or labial than the lingual plates of the bone. The exceptions to this rule are the lower third molars, in which the lingual layer of bone is the thinnest, and the buccal roots of the upper first and second molars, which at times approximate very closely to the floor of the maxillary sinus, and in a few instances the lingual roots of the first and second molars also, which occasionally approximate very closely the lingual plate of the alveolar process. It is not an

unusual occurrence for pus when it reachest the periosteum, to lift it up from the bone for a considerable area burrowing in all directions underneath, instead of passing directly through the membrane. Unless by surgical means the pus is speedily evacuated, after reaching the periosteum necrosi may follow from this separation of the periosteum from the bone. Black, in the "American System" cites such cases of necrosis and I have seen many similar ones on the buccal sides of the mandible and on the palatine as well as the buccal sides of the upper jaw.

We rarely have necrosis as a result of alveolar abscess in the upper jaw, except from the causes just indicated. More commonly necrosis on the upper jaw is due either to traumatism or syphilis.

The pointing of an alveolar abscess varies in regard to time, and to location; the usual time necessary for an acute abscess to run its course varying from three days to a week. In addition to the variations noted in the pointing of an alveolar abscess, we sometimes find them burrowing and opening a long distance from the seat of the disease. They open under the chin, on the neck, on the cheek, and I had a case not long since in my service at St. Luke's Hospital in Chicago, which when I first saw the case the pus had reached the clavical, where it was discharged in a large quantity on opening it. Black reports a case in which the pus pointed externally just underneath the malar bone, the abscess originating in an upper molar. I remember a case where an abscess originating in a badly decayed central incisor pointed just above and to the left of the ala of the nose. About the opening of the sinus there was a considerable tumor formed by granulation tissue. The discharge had continued for weeks and the patient was greatly alarmed thinking that his trouble was carcinoma. On the removal of the root and curretment of the bone and tract of the sinus, recovery was complete in a short time.

As before said, acute alveolar abscess may result in necrosis of the outer plates of the bone, and we have had in my clinic, numerous cases of necrosis which lost the patient nearly one-half of the lower jaw, which could be attributed to no other cause than an abscess originating in the jaw. We have in the college museum one-half of a lower jaw which I removed after it had become sequestered, six weeks following the initial inflammatory movement. This result was caused, not by the ordinary alveolar abscess, but by an abscess caused by an impacted lower third molar.

I have seen a number of abscesses originating in upper incisors

which opened into the floor of the nasal fossa. Many cases of suppuration of the maxillary sinus are due to infection reaching the antrum from disease communicated by the buccal roots of pulpless first and second molars, there being but the thinnest layer of bone over the ends of these roots in those cases in which the maxillary sinus is extra large and the buccal roots long. This thin layer of bone offers but slight resistance to the inflammatory process.

It is not uncommon to find attached to the end of an abscessed root, which has been extracted a soft enlargement sometimes called a pus sac, at others a pyogenic membrane. This is composed of the metamorphosed peridental membrane plus granulation tissue, the granulations, owing to the irritations to which they are subjected, not having gone on to cicatrization. Histologically there is no such thing as a pyogenic membrane. In the first place the tissue is not a membrane; in the second place, membranes do not produce pus, pus being produced by pyogenic organisms acting on live tissue.

After an acute alveolar abscess has run its course, a chronic abscess will follow unless the cause has been removed by the extraction of the offending tooth, or the tooth and its root canal or canals has been rendered sterile. With this chronic condition the formation of a small quantity of pus will continue indefinitely and remain chronic so long as the sinus remains open. If the sinus closes the abscess becomes what is known as a blind abscess, the pus being absorbed. In case of a lowering of the vitality of the patient from "taking cold," from an attack of the grippe, or other enervating conditions, this chronicity may again assume the acute form and with it all of the symptoms of asthenic inflammation, and its sequelæ. Very generally in the upper jaw, and not infrequently in the mandible, we have as a result of a chronic alveolar abscess, caries of the bone which destroys much of this tissue about the end of the root of the offending tooth. In addition to this we have absorption of the root of the tooth causing a roughened condition of that part exposed to the inflammatory process and the products of inflammation. Indeed all parts of the root denuded of its peridental membrane may be attacked. Caries of the bone is very different from necrosis. Caries is a suppurative osteitis, it is a process which slowly destroys bone, cell by cell, as an ulcer destroys the soft parts; while necrosis destroys in a mass as a result of the blood supply being cut off from the part, therefore death of this part. That part of the root which has become denuded and roughened is in reality dead, therefore a foreign body, and on this account unless the tooth

be removed or the dead portion cut off, it is doubtful if the tooth can ever be made to take on a healthy condition, no matter how well the canals may be sterilized or how perfectly filled. Of the treatment of such cases I will speak later. Serumnal deposits are sometimes formed on roots affected by chronic abscess. Unless this deposit be removed the abscess will not be cured.

An abscess is not an abscess until pus has formed, but in the inflammatory processes which precede, we may anticipate an abscess and very properly make treatment to remove the conditions which may lead up to the more serious inflammation. If we have a pulpitis, we may destroy the pulp and remove it, thereby abort an impending abscess. If we have a pericementitis, which is a result of septic material in the canal, we may open the canal, disinfect it, and apply other means to bring resolution. This may be more difficult than the cure of a pulpitis, but in many instances an abscess may be headed off. In the first place it is desirable in opening up the tooth that it should be done with the least possible inconvenience to the patient. All unnecessary jarring or pressing on the tooth should be avoided, as it tends to increase the inflammation in the sore peridental membrane. If there is an open cavity in the tooth which fully exposes the pulp canal, the difficulties are much less. If it is necessary to enlarge the opening, or if it be necessary to drill into a tooth which has no carious cavity, then some support should be employed to prevent further injury to the inflamed parts. To do this, warm modeling composition and mold a piece to both the lingual and labial or buccal sides of the tooth, including one or more teeth anterior or posterior to the diseased one. Then harden the composition by application of ice water. By holding these two pieces tightly against the teeth the drilling or excavating may be done with the least possible inconvenience and injury. The debris should then be carefully removed from the pulp chamber and canals by means of a broach. In no case should the broach be passed through the apex, unless we have reason to believe pus has already formed; then we should go through the apex if possible and evacuate it through the canals. Black's 1-2-3 or a mixture of iodine and creosote, equal parts, may be placed in the cavity on cotton loosely applied and sealed in. A number of the practitioners in Chicago are using for this purpose tricresol and formalin mixture recommended by Drs. MaWhinney, Buckley and others of Chicago. In abscesses having a sinus Dr. Buckley uses tricresol and formalin, equal parts. If the abscess has no sinus (a blind abscess) then half as much formalin is used, that is to one drachm

of tricresol add one-half drachm of the formalin. In addition if there is pain, this should be relieved, and the occlusion separated so as to give the tooth rest if it is very sore to the touch and elevated in its socket. Pain always calls for more blood and more blood means greater danger of stasis in the part and stasis favors suppuration. Aspirin in five grain doses relieves pain, Phenacetin does the same. Morphine is the king of pain relievers; but if the others are not contra indicated they should have the preference, as no habit is formed from their use. Opiates counteract the effect of cathartics, on this account, too, some other pain relievers are preferable. Saline cathartics are beneficial in the treatment of inflammation in two ways. They produce counter irritation in the intestinal tract and divert the blood from the inflamed area, and in addition they produce watery evacuations of the bowels which tends to relieve blood pressure, thereby depleting the vascular channels, affording relief at the seat of the trouble. Hot foot baths may also be profitably employed. Counter irritation over the apex of the root if applied early may relieve the congestion deeper by attracting the blood to the surface. Tincture of capsicum and tincture cantharides are both valuable for this purpose, so also is a mixture of chloroform, tincture of aconite and tincture of capsicum. One drachm each of the chloroform and aconite and one-half drachm of the capsicum. Hot water held in the mouth and hot fomentations applied to the side of the face are sedative in their effect. Diaphoretics, such as the tincture of aconite in one-drop doses every half hour is helpful in some cases. Local blood letting may also be advantageously employed to aid in depleting the congested vessels. If all efforts to bring about resolution have failed, as they will at times, or if we have not seen the patient until suppuration has taken place then local medication other than hot water will avail little. At this stage of the disease we depend upon pain relievers internally and hot water locally applied to the side of the face by means of fomentations, and evacuation of the pus. Objection is made by some to fomentations, because, as it is supposed, they tend to direct the pointing of the abscess on the face. I am not inclined to this opinion. Such applications of hot water doubtless do hasten the pointing of the abscess, but it does not tend to attract pus to the outer surface of the face. Long continued applications of hot water causes constriction of the blood vessels of the cheek and thereby prevents the inflammation extending to the surface. Poultices operate in exactly an opposite manner and tend, when applied to the face, to favor external pointing.

A chill followed by rise in temperature probably indicates the formation of pus, and even though there is no indication on the gum over the inflamed area signifying the pointing of the abscess, it is desirable to lance the gum, making a liberal opening down to the bone and if practicable through the bone to the apex of the root, unless we can drain the pus through the canal. This opening should be maintained by the insertion of a piece of gauze. By this early opening, the pus is prevented from burrowing and its pointing is directed. If the case is seen too late to discharge the pus through the mouth, and an opening on the face is feared on account of the close proximity of the pus to the surface, it is better to anticipate it and open into it externally, discharging the pus, rather than to permit the abscess to point by its own direction. If an abscess opens on the face unaided, much tissue is destroyed and an ugly scar results, while if the pus is discharged by the bistoury no scar is left except a line the length of the cut. When an abscess is opened either in the mouth or on the face the sinus and pus cavity should be thoroughly irrigated with a suitable antiseptic solution.

The treatment of a chronic abscess depends upon its nature. If it is a blind abscess with which we have to deal the pulp chamber should be opened into and the canals cleansed of all septic material by the use of broaches and antiseptic detergents, such as saturated boric acid solution. In no case should pyrozone or peroxide of hydrogen be employed, since should these oxidizing agents pass beyond the apex, the evolution of gas may cause much pain by the pressure exerted in the confined cavity about the apex, sufficient in some instances to force the infected material into the Haversian canals of the healthy bone, extending the diseased area, and changing perhaps a chronic condition into an acute one. In treating this form of abscess the rubber dam should be applied in order that the field of the operation may be rendered more sterile than otherwise and also to give better opportunity for seeing into the canals. If after repeated efforts of sterilization the abscess fails to yield, then an opening should be made through the gum and bone at the end of the root and the apex smoothed and the bone around it curetted and irrigated with a saturated boric solution, to which one drop of the oil of cassia should be added to two ounces of the solution. This opening should be maintained by packing, and it should be irrigated with the boric solution every day until all pus subsides. This treatment is not so applicable to the lower molars and the lingual roots of the first and second upper molars, but to all others, excepting per-

haps, the upper third molars. The roots should now be sealed and the external opening allowed to close by granulation.

If a chronic abscess has a sinus the primary treatment is the same as in the blind abscess, only the antiseptics may be forced through the canals into the abscess and out through the sinus. For this purpose the old remedy, 95 per cent. carbolic acid may be employed with prompt cure following in many cases. Alcohol should follow this injection to offset the too great escharotic effect of the carbolic acid.

Should there be carious bone with denuded and roughened roots, or if serumnal calculus has deposited on the root, then even this heroic treatment may not suffice to affect a cure. If there is caries of the bone as a result of the abscess, the discharge will be serous with only a limited amount of pus. Such cases do not as a rule readily yield, if at all, to treatment through the root canals only, and surgical means will be necessary to bring about a permanent cure. Usually in carious cases we find that the end of the root is denuded and roughened by absorption. To cure the condition under these circumstances the root should be resected in addition to the removal of the carious bone, and the pocket irrigated with antiseptics and packed for a time with iodoform gauze. The pocket should be irrigated daily after the treatment and repacked with gauze until healthy granulations form. Prior to resection or cutting off of a root, the pulp canal should be disinfected and filled, and the cavity temporarily filled. This treatment is applicable to the incisors, cuspids and bicuspid, the buccal roots of the first and second upper molars and also occasionally to the lingual roots of these molars. If it is a lingual root of an upper first or second molar which causes the disease it is generally best to resect the entire root at the bifurcation, as these teeth will do well and last many years affording good service with the two buccal roots only remaining. In some instances we may remove one root entirely of a lower first or second molar and the tooth still do good service. To resect the root, of say a central incisor, make a curved incision in the gum tissue with its convexity downward, turn up the flap and bur through the thin layer of bone if it has not already been destroyed by disease, as is the case in most instances. This exposes the root. With a bibeveled drill, drill directly through the root, then introduce in drill hole a cross cut fissure bur, cut right and left until the root is severed. The end of the root may then be turned out, and the carious bone curetted with after treatment as before indicated.

SOCIETY ANNOUNCEMENTS

AND REPORTS OF MEETINGS

NATIONAL SOCIETY MEETINGS.

Lewis and Clark Dental Congress, Portland, Ore., July 17-20.
National Dental Association, Buffalo, N. Y., July 24.
National Association of Dental Examiners, Buffalo, N. Y., July 24.
National Association of Dental Faculties, Buffalo, N. Y., July 27.
Northwestern Dental Association, Rutland, Vt., Oct. 18-19.

NATIONAL ASSOCIATION OF DENTAL FACULTIES.

The annual meeting of the N. A. D. F. will be held at Buffalo, commencing at 2 p. m. on Thursday, July 27, 1905. The Executive Committee will meet at 10 a. m. the same day. Special business to come before the N. A. D. F. is the consideration of the proposed revision of the constitution and by-laws.

H. B. TILSON, Chairman Ex. Committee.

JOHN I. HART, Sec'y Ex. Committee.

STATE SOCIETY MEETINGS.

California State Dental Association, no meeting except Lewis and Clark.

Indiana State Dental Association, Indianapolis, July 27-29.

Maine Dental Society, Portland, July 18-19-20.

New Jersey State Dental Society, Asbury Park, July 19-20-21.

South Carolina State Dental Association, White Stone Springs, July 18-19-20.

Wisconsin State Dental Society, Oshkosh, July 18-19-20.

NORTHERN INDIANA DENTAL SOCIETY.

The Northern Indiana Dental Society will hold its annual meeting at Logansport, September 19 and 20th.

FRANCIS M. BOYER, D. D. D., Secretary.

ROCK ISLAND COUNTY DENTAL SOCIETY.

The Rock Island County Dental Society met at Geneseo, Ill., June 20. Papers were read by Dr. Silvis of Moline and a clinic was given by Dr. Lockhart of Moline; also clinics by Dr. Mary Roheson of Moline, Dr. A. Gaiser of Nebraska and Dr. Pearce of Rock Island. Next meeting in Rock Island in October.

THE COLORADO STATE DENTAL ASSOCIATION.

The following officers were elected for the current year for the Colorado State Dental Association: Dr. Wm. T. Chambers, Denver, President; Dr. J. Allen Smith, Colorado Springs, Vice President; Dr. B. Frank Gray, Colorado Springs, Secretary; Dr. Wm. Smedley, Denver, Treasurer. Next year's meeting place is Fort Collins, Colorado.

B. FRANK GRAY, Secretary.

INDIANA STATE DENTAL ASSOCIATION.

The Indiana State Dental Association met at Indianapolis June 27-29. The following officers were elected for the ensuing year:

President, Dr. J. Q. Byram, Indianapolis; vice president, Dr. A. T. White, Newcastle; secretary, Dr. Ross Adams, Clinton; treasurer, Dr. C. W. Throop, Muncie; trustees to serve for three years, Dr. W. H. Greene, Lebanon; Dr. M. N. Haas, Evansville; Dr. Carl Lucas, Indianapolis.

INTERSTATE DENTAL FRATERNITY.

The board of governors of the Interstate Dental Fraternity will convene for the annual business meeting of the order, in Buffalo, Monday, July 24, 1905. The annual banquet will occur during the week, and due notice thereof will be sent to the members as soon as arrangements can be made, and the exact date fixed. It is hoped that the fraternity will meet in large numbers on this occasion.

R. M. SANGER, *National Secretary*,

East Orange, N. J.

NEW JERSEY STATE DENTAL SOCIETY.

The thirty-fifth annual meeting of the New Jersey State Dental Society will be held in the Auditorium, Asbury Park, N. J., commencing July 19th, and continuing until July 22d. Headquarters at Hotel Columbia; rates for one person in room, \$3.50; two persons in room, \$3.00. Meeting will commence promptly at 10 a. m. on the 19th. The various committees have been successful in securing eminent practitioners for papers of present interest. Some fifty clinicians in the most modern up-to-date dentistry and the space in the large Auditorium most entirely filled with all the newest appliances to practice dentistry. Friday evening will be devoted to the social side with a smoker, including a collation and entertainment to the guests, exhibitors and members. Cut out now the week of July 17th and meet with us. Seven hundred and fifty-six dentists registered last July; make it a thousand this year.

CHARLES A. MEEKER, Secretary.

NATIONAL ASSOCIATION OF DENTAL EXAMINERS.

The annual meeting of the National Association of Dental Examiners will be held at the Iroquois Hotel, Buffalo, N. Y., beginning Monday at 10 A. M., July 24, 1905, and continuing until adjournment. The rates per day for single rooms will be \$1.50, \$2 and \$2.50, \$3 and \$4 for double, and \$3 and \$3.50 for rooms with bath. The sessions will be held in commodious rooms in the hotel. Write early and secure your accommodations. Arrangements have already been made for members from the East for reduced excursion rates on the fast trains of the Delaware and Lackawanna Railroad, leaving New York 10 A. M., 6:10 P. M., 8:45 P. M., and 2 A. M. It is earnestly requested that the secretaries of the boards will communicate at once any changes in members' names and addresses.

CHAS. A. MEEKER, *Sec'y*,
29 Fulton Street, Newark, N. J.

COLLEGE OF DENTISTRY UNIVERSITY OF ILLINOIS.

Commencement exercises were held in Steinway Hall, Chicago, May 4th, with Dr. B. J. Cigrand presiding, who also conferred degrees. Following is the class roll: George Dunn Ament, Herbert Swiger Alsip, Bernard B. Autenreith, Earl Root Bailey, Grace Baker, Walter Howard Berry, Harry Seacorn Bott, James Alfred Campbell, Leon William Clancey, John Robert Clary, Charles Edgar Comer, William Horace Crandall, John Elbert Darmer, Lee Earl Eiser, J. Joseph Flanigan, George Edwin Funston, Stephen Francis Gordon, Milton Absalom Grissom, Robert John Gunn, George Russell Houston, Kenneth Ward Houston, Robert Edgar Houston, Francis Hodge Ivey, Frank Hetherington Kelly, Norman LeRoy Kerr, Nathan Kimmel, William Aloysius Krebs, Robert William Krog, J. Byron LaDue, Harvey Middleton Lancaster, Edwin Arthur Lewin, Thomas Henry Logan, Arthur Garfield Lyle, William George McCall, John Francis McDonald, Charles McDowell, Elmer N. McDowell, James Edward McKahn, Jeremiah Francis McSwiggin, Jay Phillips Marshall, N. Ray Mecham, Albert Mindlin, Vernon Alvin Moore, Arthur G. Nauman, Robert G. Nordgren, Clarence C. Nugent, David A. Peterson, J. Chester Pogue, William Roy Porterfield, Michael James Quinlin, Stonewall J. Ramsey, Roland Roderick Rains, Paul A. Rotzoll, Theodore L. Schroeder, Harry V. Shaw, Charles M. Sherrill, F. Hayworth Smith, Irving Le-land Smith, Edward William Smith, Maurice Harry Spare, George Hume Stephenson, Arthur J. Stevens, Wilhelm Ferdinand Stone,

Homer Birdsell Strain, James M. Thomas, Tom Waterworth, David Ignatz Weisz, Arthur DaMonte Wood, Peter Frank Wybraniec, Arthur J. H. Young.

NATIONAL DENTAL ASSOCIATION.

SECTION ONE.

The following programme will be offered for the consideration of this Section in Buffalo, July 25, 27, 1905:

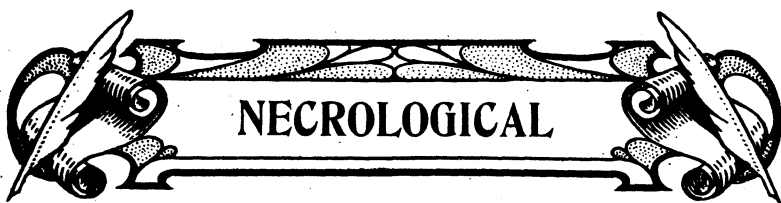
Dr. Calvin S. Case, Chicago, "Orthodontia." Dr. C. Edmund Kells, Jr., New Orleans, La., "Orthodontia." Dr. V. H. Jackson, New York, "Orthodontia." Dr. R. Ottolengui, New York, "Orthodontia." Dr. H. H. Johnson, Macon, Ga., "Prosthetic Dentistry." Frederic Freeman, Boston, "Prosthetic Dentistry." Dr. W. Storer Howe, Philadelphia, "Crown and Bridge Work." Special paper by Dr. R. H. Hofheinz, Rochester, N. Y., "The D. D. S. Abroad." DR. J. G. FIFE, Secretary, DR. THOMAS P. HINMAN, Chairman,
Dallas, Texas. Atlanta, Ga.

SECTION TWO.

The following programme will be offered for the consideration of this Section in Buffalo, July 25, 27, 1905:

Dr. J. V. Conzett, Dubuque, Ia., "Gold as a Filling Material." Dr. B. L. Thorp, 3666 Olive St., St. Louis, Lantern Lecture, "Pioneer Manipulators of Gold Foil." Dr. Chas. Milton Ford, 623 W. 141st St., N. Y., "Dental Education." Dr. W. R. Clack, Clear Lake, Ia., "The Necessity for a Method of Preserving the Integrity of the Interproximal Space." Dr. D. O. M. LeCron, 501 Missouri Trust Bldg., St. Louis, "A Few Experiments in Porcelain." Dr. D. W. Fellows, Portland, Me., "A Century of Standard Dental Writings." Dr. B. Holly Smith, 1007 Madison Ave., Baltimore, "Operative Dentistry." Dr. S. H. Guilford, 1631 Walnut St., Philadelphia, Pa., "The Nomenclature of Orthodontia." Dr. Wm. H. Potter, 16 Arlington St., Boston, Mass., "The Use of the Summer Vacation in the Education of the Dental Student." Dr. I. J. Wetherbee, 120 Boylston St., Boston, Mass., "Tin and Gold—Its Possibilities and Uses as a Filling Material."

DR. C. S. BUTLER, Secretary, DR. H. E. ROBERTS, Chairman,
Buffalo, N. Y. Philadelphia, Pa.



NECROLOGICAL

DR. CHARLES E. FRANCIS.

Dr. Charles E. Francis, who, until his retirement four years ago, was one of the leading dentists in New York City, died at his home at Stamford, Conn., July 2, from heart prostration and uraemic poisoning. He was 78 years old and is survived by a widow and three children. He was founder of New York Dental College and had been president of the New York Dental Society.

DR. M. G. SHEEHAN.

Dr. Michael G. Sheehan, a prominent dentist of Detroit, Mich., died of rheumatism of the heart at his home in that city June 9, after a two weeks' illness.

Dr. Sheehan was born in Ann Arbor 47 years ago. After graduating from the University of Michigan he practiced in his native city until he removed to Detroit, fifteen years ago. He is survived by a widow, a son, Louis, a student at the U. of M., and a daughter, Theresa, now at St. Mary's Academy, Monroe.

DR. F. B. NESBETT.

Dr. Frederick Beverly Nesbett died at his residence, in New Bedford, Mass., June 8. Death was due to a carbuncle on the back of the neck. He had been ill about four weeks.

Deceased was born in St. Stephen, New Brunswick, March 13, 1842. In June, 1861, at the first call for volunteers, he enlisted in company B, Fifth Maine volunteers, to serve three years. He was widely known as a member of the Grand Army, and had a fine record as a soldier. He participated in 11 battles.

In January, 1865, he entered the dental profession under Dr. Jeremiah Mason of Saco, Me., and he practiced in Saco until 1868. From 1868 to 1870 he practiced in Bahia, Brazil, and in 1870 and 1871 he practiced in New York city. Late in 1871 he started practice in New Bedford and was in active practice up to the time of his late illness. He was widely known in his profession throughout the state. Dr. Nesbett had been prominent in Grand Army, Odd Fellow and Masonic circles, being a member of Eureka lodge, F. & A. M., Adoniram Royal Arch chapter, and Sutton commandery, K. T.; post 190, G. A. R.; Union Veteran Legion; Fifth Maine Regiment association; National Association Union ex-Prisoners of War, and of the Wamsutta club.

MISCELLANEOUS

TREATMENT OF PYORRHEA ALVEOLARIS.

By M. Barrie, Paris, France.

The author reports favorably on the treatment of this malady. His method consists in cauterizing the diseased sockets with the thermo-cautery and in injecting between the roots and alveoli solutions of adequate strength of mercury bichlorid in distilled water. This procedure, together with the firm splinting of the teeth, is considered by Mons. Barrie as a method *par excellence* in the therapeutics of pyorrhea alveolaris.—*l'Odontologie*, Paris, May 30, 1905.

THIGENOL.

Saalfeld (*Jour. de mal. cut. et syph.*, November, 1904) experimented with this new substance, put forward as a succedaneum to ichthyol. It is a composition of iodine and ichthyol, in which occurs 10 per cent. of sulphur in an organic state of combination. Thigenol possesses a dark-brown color and a syrupy consistence; is inodorous, almost insipid; soluble in water, alcohol, and glycerin. Applied to the skin it dries rapidly, and it does not stain the linen. It is a vaso-constrictor, is useful in inflammations, is drying, and favors resorption.—*American Journ. of the Med. Sciences*.

ATROPHY OF THE ENTIRE SKIN OF THE FACE CAUSED BY ROENTGEN RAYS.

Dr. Noble (*Proceedings of Wiener Derm. Soc.*, February 10, 1904) reports the case of a man, aged thirty years, who was treated with the rays for a chronic sycosis, fifty sittings, at a day's interval, five to ten minutes each, at 20 centimeters' distance, having been given. During all this long period there occurred no active reaction. The atrophic lesions developed late, and for two years subsequently had undergone no further change. The skin everywhere was thinned and had a vitreous look, with slight scaling and very fine fissures, the lines being similar to those of old age. The epidermis was rough, like tissue paper, beneath which the skin was red, showing vascular ectasias and numerous relics of the sycosis.—*Amer. Journ. of the Med. Sciences*.

PORCELAIN IN LARGE LABIAL CAVITIES.

In this class of cavities I have found that an impression can be readily and accurately made in the following manner:

First, make a die by pressing a soft piece of impression compound into the cavity tightly. Harden under a stream of cold water and remove. Then place the platinum over the cavity, holding loosely, and with another piece of compound gradually force to the bottom. By careful manipulation this can be done without breaking the platinum.

Insert the die, which will adapt the impression at every point. Remove the die, and burnish the edges, either before or after the first bake, according to the operator's individual method. This can also be used to advantage in other large cavities easy of access.—*Chas. A. Turner, Statesville, N. C., in Cosmos.*

FULMINANT CARIES ALVEOLARIS SPECIFICA.

Akövy (*British Medical Journal*, Nov. 19, 1904) under the above title writes upon an acute alveolar inflammation commonly characterized as "pyorrhea," the term specific implying not that it is of syphilitic nature, but that it is associated with true caries. The affection in its chronic form is of course well known, but that it may appear suddenly, with pain, often severe constitutional symptoms, and the formation of multiple extra-alveolar abscesses, is not so well recognized. The treatment is much like that appropriate to a chronic pyorrhea. The tartar deposits are removed from the roots. Stimulating, even cauterizing, applications are employed, such as hydrogen dioxid or aromatic sulphuric acid; and since the severe pain is due to gangrene of the pulp, opening into the pulp-cavity is indicated. The teeth usually regain their former firmness if treatment is prompt. These fulminant attacks only occur in cases of chronic pyorrhea; the abscesses communicate through the inter-alveolar septa, which are necrosed. The pain is usually agonizing in intensity and obstinately persistent, and there is an associated diffuse gingivitis.—*Therapeutic Gazette.*

***A GOLD INLAY WITH SWAGED OCCLUSION.**

Take modeling compound impression of cavity; fill with a quick-setting cement, separate in warm water (do not use hot water or dry heat as it will stick to the cement), place cement die, or model, in Coat's swager, using dental lac to retain it in place, swage matrice of 36 gage pure gold.

Place matrice in cavity (after first annealing it) and burnish to margins, remove and anneal, replace in cavity, make a very stiff mixture of quick setting cement, work between finger and thumb until cement starts to set, then place into cavity with matrice in position, and have the patient close their jaws, forcing the cement firmly into the matrice and cavity and giving a perfect occlusion.

Remove the cement and matrice together, carve the cement to allow for thickness of 32 gage gold, and give shape to the inlay, place in swager, matrice side down, swage pure gold 32 gage over cement, remove from swager, take cement out of the matrice, solder the two pieces together.

Make a hole in matrice, fill the inlay about one-half full of solder, leaving it hollow to be filled with cement when it is set.—*P. T. Barber, in City Dental Society, Omaha, Neb., June 7, 1905.*

*From Tri-City Dental Society, Omaha, Neb. June 7, '05.

DEATH BY DENTAL CARIES.

By Professor Broca, Paris.

Professor Broca has repeatedly called attention to the possibility of serious phenomena developing within the substance of the jaws consequent upon neglected cases of dental caries.

In this communication the author describes the case of a boy aged four who presented, at the time of his admission to the Hospital des Enfants Malades, severe symptoms of infectious nature. The right peri-auricular, parotid, and angulo-maxillary regions were tumefied and edematous. There was a discharge through the external auditory meatus of some serous turbid liquid. The diagnosis of septic complications of auricular origin was rejected by Professor Broca, for the reason that while the post-auricular region was of normal appearance and absolutely painless, the area over the body and ascending ramus was extremely painful to pressure. The diagnosis was consequently changed to osteomyelitis of the jaw.

The interior of the mouth could not be examined owing to a forced contraction of the masseter and internal pterygoid caused by the inflammation around the ascending ramus; but the examination of the vestibule alone at once pointed to the cause of the disturbance. From around the gingival margin of the lower right first molar pus was being discharged in large quantities. The patient's temperature

was about 105, the pulse small and rapid, and the color of the skin grayish. The urine contained great quantities of albumin.

The surgical intervention consisted in the immediate extraction of the teeth the seat and origin of the pyogenic invasion. On the following day, with the patient properly anesthetized, a deep incision was made along the lower border of the mandible. From under the periosteum about two drams were removed of a brownish, fetid, and hematic discharge. The operation improved the local condition, but did not relieve in the least the systematic symptoms. The temperature went down about two degrees during the next day, but went up again to about 105, and on the third day the little patient expired.

It is probable that had the diseased tooth been removed as soon as the abscess developed the case would not have had a fatal termination. Lower deciduous teeth, the seat of acute abscesses, should be treated without loss of time, and extracted at once if the abscess should not respond to ordinary treatment. The mandible, because of the nature and arrangement of its component tissues, is more exposed to the ravages of pyogenic infection than any other bone of the face, and furthermore, as shown by reliable statistics, is more often than the maxilla the seat of necrosis and other inflammatory phenomena. An abscess upon a deciduous root should be considered a far more serious disturbance than a similar pathological condition affecting a permanent root. Therefore proper treatment should be undertaken at once, for if the case be neglected the consequences may become so serious as to endanger the life of the child, and in some cases, as in the one under consideration, terminating fatally by inducing a state of general toxemia from which the already debilitated child's organism is powerless to recover.—*Revue Odontologique*.

Personal and General

Foster-Graham.—Dr. R. C. Foster of Argona, Ark., and Miss Minnie Low Graham, of Lonoke, Ark., were married at the latter place, July 3.

Millman-Shaffer.—Dr. Ray Millman, of Dayton, O., and Miss Lida Shaffer, of Middletown, O., were married at Hamilton June 8.

McKee-Collins.—Dr. M. J. McKee of Manhattan, Kan., and Miss Lillie May Collins of Westmoreland, Kan., were married July 7 at the latter place.

Mentz-Framken.—Dr. Harry C. Mentz of Reno and Miss Grace Framken, were married at that place July 8.

Kennedy-Case.—Dr. E. W. Kennedy of Burlington, Kan., and Miss Essie L. Case of Yates Center, were married May 29th, at the latter place.

Vail-Wood.—Dr. G. W. Vail of Iowa City, Iowa, and Miss Lena Wood, of Mankato, Minn., were married at the former place June 10.

Corle-Deuer.—Dr. Samuel Corle of Wildwood, N J., and Miss Marie Deuer of Philadelphia were married at the latter place June 12.

Bankrupt.—Charles E. Summers, a dentist at Milwaukee, has filed a petition in bankruptcy. The liabilities are scheduled at \$1,696.70, with assets of \$455, of which \$200 is claimed as exempt.

McBean-Rice.—Dr. C. D. McBean, formerly of Spokane, but now practicing at Pendleton, Ore., and Miss Ruby Pearl Rice, of Spokane, were married at the latter place July 7.

Bankrupt.—Albert Wetlake, a dentist of No. 500 Fifth avenue, New York, has filed a petition in bankruptcy, with liabilities, unsecured, of \$45,814 and nominal assets. The liabilities are mostly for money borrowed.

Thacker-Gonter.—Dr. H. H. Thacker of the firm of Spears & Thacker, dentists, at Brazill, Ind., and Miss May Gonter, of the same place, were married June 14.

Doan-Barron.—Edgar A. Doan, M. D., and Anna A. Barron, D.D. S., both of Mishawaka, Ind., were married June 20. The American Dental Journal extends congratulations.

Vulcanizer Explodes.—While Dr. F. P. Wells, of Clarinda, Iowa, was leaning over his vulcanizer in his office, it exploded, burning him about the breast, arm and both hands.

Injured.—While returning from Louisville, Dr. J. H. Boswell, a young dentist of Mayfield, Ky., was thrown from a train and his left knee cap split, causing life injury.

Dentist Injured.—Joseph C. Frey, a dentist of Chicago, who formerly resided in Rock Island, was injured in that town July 20, while attempting to board a moving train. He fell under the train in such a manner that one foot was mangled and amputation found to be necessary.

Exploits Dental Methods.—Dr. John N. Sandblom, president of the Scandanavian-American Dental Society of Chicago, has gone to Europe to give a course of lectures and demonstrations in advance dentistry in each of the three Scandanavian capitals.

Banquet to Chinese Dentist.—In honor of his graduation from the Philadelphia Dental College, Dr. H. B. Kingman, a Chinaman, who will sail shortly for his native land, was given a banquet at Philadelphia by Willie Lee York, a Chinatown politician, and Lee Chit, Lee Ding and Lee Hong.

Dentist Arrested.—Takakayu Kamikama, a dentist at Sacramento, Cal., has been arrested for alleged violation of the law regulating the practice of dentistry. This is the sixth arrest in that city, all made on complaint of R.T. McKissick, attorney for the State Board of Dental Examiners.

Army Dental Surgeon.—Orders were issued in Washington detailing Examining and Supervising Dental Surgeon John E. Marshall, U. S. A., to represent the dental corps of the army at the Lewis and Clark dental congress to be held at Portland, Ore., July 17 to 20.

Transvaal Bars American Dentists.—American physicians and dentists, notwithstanding their famous skill and provision pre-eminence, now find it impossible to practice their professions in the Transvaal, without first obtaining a certificate of registration, and such a certificate can not be obtained unless the applicant possesses British qualifications.

England and the Dentists.—So many people have bad teeth. In due course England will lose her proud position as the greatest nation in the world, simply because England will not go to the dentist, which is a curious neglect for a people whose morning tub is much less likely to be neglected than their morning prayers.—Mrs. John Lane in *Fortnightly Review*, London.

Dissolved.—The dental firm of Secrist and Campbell, at Alpena, Mich., has been dissolved, each member remaining in practice at that place.

Dr. William A. Bleke, whose home was in Fort Wayne, Ind., committed suicide in the Grand Central hotel in St. Louis, July 3. He had just been graduated from the Jefferson College dental department in St. Louis and was ready to begin the practice of his profession. The body was found by a chamber maid. There was a bottle at the side of the bed which had contained carbolic acid.

Died In Chair.—Mrs. Myron Gill, wife of a rural mail carrier, at Schoolcraft, Mich., went to the dental office of Dr. C. W. Beistle to have nine teeth extracted and requested that chloroform be administered. Dr. D. E. Binning was called in and made an examination, pronouncing it safe for her to have the chloroform, which was administered. After Dr. Beistle had extracted eight of the teeth she suddenly collapsed, and Dr. J. F. Chapin and another physician were called, but could do nothing to revive the woman, who died under the influence of the drug.

REMOVALS.

Dr. Yaple from Mendon, Mich., to Mishawaka, Ind. Dr. G. A. Mills from Stanford, Ill., to Jacksonville, Ill. Dr. H. H. Porter from Oregon, Ill to Monee, Ill. Dr. F. George from Mauston, Wis., to Geneva, Ill. Dr. H. Grubb from Columbus, Ohio, to Wheeling, W. Va. Dr. George L. Dent from Chicago, Ill., to Oklahoma City, Okla. H. N. Hinsdale from Salt Lake City to St. Anthony, Idaho. Dr. Harvey B. Washburn from Red Wing, Minn., to Zumbrota, Minn. Dr. C. S. Bugbee, from Minneapolis, Minn., to Sanborn, Minn. Dr. R. C. Matteson from Sioux Rapids, S. D. to Fremont, Neb. Dr. H. Plummer from Huron, S. D., to Rockport, Ill. Dr. F. D. Miner, from Traer, Ia., to Belle Plaines, Ia. Dr. W. A. Budlong, from Rome, N. Y. to Oneonta, N. Y. Dr. Shiloh Smith from Jonesville, Mich. to Traverse City, Mich. Dr. F. C. Clark from New Sharon, Ia., to Mt. Ayr, Iowa. Dr. F. S. Lindow from Waupaca, Wis., to Marion, Wis.

PATENTS

789,161. Dental Electrode for Medicamental Diffusion. Samuel H. Linn, Rochester, N. Y. Filed Sept. 30, 1903. Renewed Sept. 19, 1904. Serial No. 225,087. See Fig. 1.

Claim.—1. In a dental electrode an insulating-sheath and a coiled spring therein having threaded in one end thereof suitable absorbent material extending through an opening in such sheath.

2. In a dental electrode an insulating-sheath containing an electrode of suitable absorbent material threaded into the end of a coiled spring, projecting through an opening in such sheath and arranged to be held in contact with the tissues to be treated by the action of such spring.

3. In a dental electrode an insulating-sheath and a coiled spring therein having threaded in one end thereof suitable absorbent material extending through an opening in such sheath, and means for varying the pressure under which the electrolyte is supplied to such absorbent material.

789,908. Dental Cup. William Hare, Augusta, Ill., assignor to Dr. Hare's Dental Device Co., Danville, Ill., a Corporation. Filed Sept. 17, 1904. Serial No. 224,802. See Fig 2.

Claim.—1. In combination with a dental cup, a plurality of wings within the cup and pivoted to a wall thereof, and means secured to the wings and bridging the wall for imparting a movement to said wings.

2. In combination with a dental cup having apertures in a wall thereof, a plurality of wings, and lugs formed on the wings adapted to pass through the apertures.

3. In combination with a dental cup, a plurality of wings within the cup, said wings being pivotally connected at one edge to a wall thereof and means secured at the opposite portion of the wings and bridging the wall for imparting a movement to the said wings.

790,207. Dental Bracket. Gustav Holtz, Gouldsboro, Pa. Filed Aug. 27, 1904. Serial No. 222,469. See Fig 3.

Claim.—1. In a device of the class described, the combination of an outer frame or section having a grip or handle portion and provided at one side with a box or casing located above the grip or handle portion, upper and lower parallel connecting-bars pivoted to the frame or section, the upper connecting-bar being provided with a curved ratchet arranged concentric with the pivot, a gravity-pawl mounted on the upper portion of the frame or section and arranged to engage the said ratchet and provided with a depending thumb-piece located adjacent to the upper portion of the grip or handle of the frame, a slidable bar operating in the box or casing and adapted to support a table, and means located at the side of the frame or section opposite that at which the pawl is arranged for holding the slidable bar in its adjustment, substantially as described.

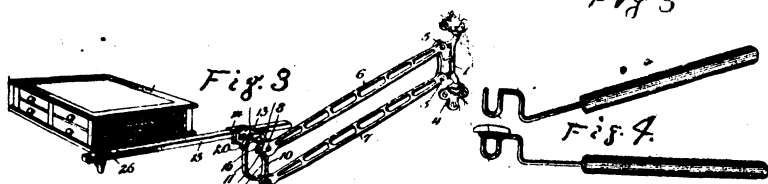
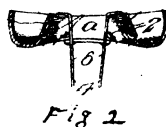
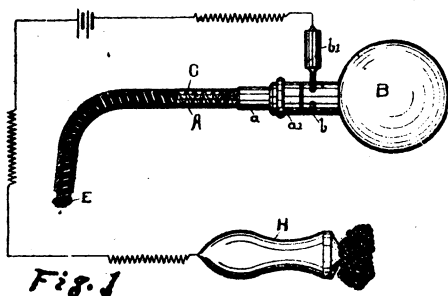
789,415. Dental Device. Henry G. Dressel, Chicago, Ill. Filed Sept. 6, 1904. Serial No. 223,467. See Fig. 4.

Claim.—1. The combination with a handle, of a longitudinally-curved frame adapted to support a plurality of teeth.

2. A device of the kind described, comprising a wire bent to form an elongated frame curved longitudinally, the free ends of the wire being bent downwardly from one side of the frame midway, its ends to form a handle portion.

3. A device of the kind described comprising a handle portion, the said handle having an offset adjacent its upper end, and a longitudinally curved wire frame, integral with the said offset portion and arranged transverse thereto.

4. A device of the kind described comprising a handle, an elongated, longitudinally-curved frame arranged transversely to the handle, an angled wire portion integral with the frame and connecting the frame to the handle, as and for the purpose set forth.



789,591. Dental Appliance. Freeman Davis, Moulton, Iowa. Filed Nov. 28, 1904. Serial No. 234,621. See Fig. 5.

Claim.—1. A tooth-separator comprising a pair of pivotally-connected members, means for forcing them toward and from each other, and a matrix carried by one of said members.

2. A tooth-separator comprising a pair of pivotally-connected members, means for forcing them toward and from each other, and an adjustable matrix carried by one of said members.

3. The combination with a tooth-separator, comprising pivotally-connected members and means for adjusting said members, of a matrix comprising a bar mounted upon one of said members, a flexible strip, and means for adjusting said strip, substantially as described and for the purpose set forth.

WANTED.

Sanitol chemical stock. Address R. O'Sullivan, 43 Exchange Place, New York, N. Y.

LOST.

Box of dental instruments in Illinois, mostly S. S. W. Conc socket plugger points, etc., pasteboard box. \$5.00 reward. Address S 2, Am. Dent. Jour.

FOR SALE.

Practice in good Michigan town of 2,000 for less than cost of outfit, or will sell half interest until new man is established.

Address J-3, American Dental Journal.

FOR SALE.

Fine office in city of 12,000 in Michigan. Price right. Been in city 10 years. Practice from \$3,000 to \$4,000 per year. Address A. J. S., American Dental Journal.

AMERICAN DENTAL JOURNAL.

The answers to my recent want ad have been numerous; they came from New York, Alabama, Texas, California and nearly all the other states.—W. A. Neece.

FOR SALE.

Established practice in central Indiana town of 4,500, best location in town and good price schedule; account health; must make a change. Address Central Indiana, care of American Dental Jour.

DENTAL PRACTICE FREE.

FOR SALE.—At \$100. Complete furniture for two rooms (dental goods excepted). Rent \$9 per month; steam heat; electric lights. Population, 6,000, Michigan. Cash income last year, \$2,800. Reason for selling, medical course this fall. Address S. R., care American Dental Journal.

FOR SALE.

Dental Practice in a city of about 1,800; central Mich.; county seat; no opposition; good office and fixtures. Person leaving the country. A good thing for someone. Address W. M. Hawkins, Sr., Attorney, Corunna, Mich.

Advertisements in want ad columns are five cents per word. If you want to buy or sell, employ or be employed, you will get good results from this column.

FOR SALE.

Two thousand dollar practice and outfit, Illinois County Seat, 3,000 population. Address business care Frink & Young, Chicago.

FOR SALE.

Practice and outfit in Iowa town of 1,200, established ten years, the only dentist. Address F. M., care American Dental Journal.

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